



SEQUENCE LISTING

123

<110> Birkett, Ashley J.

<120> IMMUNOGENIC HBc CHIMER PARTICLES HAVING ENHANCED STABILITY

<130> 4564/83501 ICC-102.2 PCT

<140> 09/930,915

<141> 2001-08-15

<150> 60/226,867

<151> 2000-08-22

<150> 60/225,843

<151> 2000-08-16

<160> 313

<170> PatentIn Ver. 2.1

<210> 1

<211> 16

<212> PRT

<213> Plasmodium falciparum

<400> 1

Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro  
1 5 10 15

<210> 2

<211> 20

<212> PRT

<213> Plasmodium falciparum

<400> 2

Glu Tyr Leu Asn Lys Ile Gln Asn Ser Leu Ser Thr Glu Trp Ser Pro  
1 5 10 15

Ala Ser Val Thr

20

<210> 3

<211> 15

<212> PRT

<213> Streptococcus pneumoniae

<400> 3

Lys Leu Glu Glu Leu Ser Asp Lys Ile Asp Glu Leu Asp Ala Glu  
1 5 10 15

<210> 4

<211> 35

<212> PRT

<213> Streptococcus pneumoniae

<400> 4

Gln Lys Lys Tyr Asp Glu Asp Gln Lys Lys Thr Glu Glu Lys Ala Ala  
1 5 10 15

Leu Glu Lys Ala Ala Ser Glu Glu Met Asp Lys Ala Val Ala Ala Val  
20 25 30

Gln Gln Ala

35

<210> 5

<211> 27

<212> PRT

<213> Cryptosporidium parvum

<400> 5

Gln Asp Lys Pro Ala Asp Ala Pro Ala Ala Glu Ala Pro Ala Ala Glu  
1 5 10 15

Pro Ala Ala Gln Gln Asp Lys Pro Ala Asp Ala  
20 25

<210> 6

<211> 17

<212> PRT

<213> Human immunodeficiency virus type 1

<400> 6

Arg Lys Arg Ile His Ile Gly Pro Gly Arg Ala Phe Tyr Ile Thr Lys  
1 5 10 15

Asn

<210> 7

<211> 31

<212> PRT

<213> Foot-and-mouth disease virus

<400> 7

Tyr Asn Gly Glu Cys Arg Tyr Asn Arg Asn Ala Val Pro Asn Leu Arg  
1 5 10 15

Gly Asp Leu Gln Val Leu Ala Gln Lys Val Ala Arg Thr Leu Pro  
20 25 30

<210> 8

<211> 10

<212> PRT

<213> Influenza A virus

<400> 8  
Tyr Arg Asn Leu Leu Trp Leu Thr Glu Lys  
1 5 10

<210> 9  
<211> 23  
<212> PRT  
<213> Influenza A virus

<400> 9  
Ser Leu Leu Thr Glu Val Glu Thr Pro Ile Arg Asn Glu Trp Gly Cys  
1 5 10 15

Arg Cys Asn Gly Ser Ser Asp  
20

<210> 10  
<211> 23  
<212> PRT  
<213> Influenza A virus

<400> 10  
Ser Leu Leu Thr Glu Val Glu Thr Pro Ile Arg Asn Glu Trp Gly Cys  
1 5 10 15

Arg Cys Asn Asp Ser Ser Asp  
20

<210> 11  
<211> 142  
<212> PRT  
<213> Yersinia pestis

<400> 11  
Asp Ile Leu Lys Val Ile Val Asp Ser Met Asn His His Gly Asp Ala  
1 5 10 15

Arg Ser Lys Leu Arg Glu Glu Leu Ala Glu Leu Thr Ala Glu Leu Lys  
20 25 30

Ile Tyr Ser Val Ile Gln Ala Glu Ile Asn Lys His Leu Ser Ser Ser  
35 40 45

Gly Thr Ile Asn Ile His Asp Lys Ser Ile Asn Leu Met Asp Lys Asn  
50 55 60

Leu Tyr Gly Tyr Thr Asp Glu Glu Ile Phe Lys Ala Ser Ala Glu Tyr  
65 70 75 80

Lys Ile Leu Glu Lys Met Pro Gln Thr Thr Ile Gln Val Asp Gly Ser  
85 90 95

Glu Lys Lys Ile Val Ser Ile Lys Asp Phe Leu Gly Ser Glu Asn Lys

100 105 110

Arg Thr Gly Ala Leu Gly Asn Leu Lys Asn Ser Tyr Ser Tyr Asn Lys  
115 120 125

Asp Asn Asn Glu Leu Ser His Phe Ala Thr Thr Cys Ser Asp  
130 135 140

<210> 12  
<211> 19  
<212> PRT  
<213> Haemophilus influenzae

<400> 12  
Cys Ser Ser Ser Asn Asn Asp Ala Ala Gly Asn Gly Ala Ala Gln Phe  
1 5 10 15

Gly Gly Tyr

<210> 13  
<211> 11  
<212> PRT  
<213> Haemophilus influenzae

<400> 13  
Asn Lys Leu Gly Thr Val Ser Tyr Gly Glu Glu  
1 5 10

<210> 14  
<211> 16  
<212> PRT  
<213> Haemophilus influenzae

<400> 14  
Asn Asp Glu Ala Ala Tyr Ser Lys Asn Arg Arg Ala Val Leu Ala Tyr  
1 5 10 15

<210> 15  
<211> 28  
<212> PRT  
<213> Moraxella catarrhalis

<400> 15  
Leu Asp Ile Glu Lys Asp Lys Lys Lys Arg Thr Asp Glu Gln Leu Gln  
1 5 10 15

Ala Glu Leu Asp Asp Lys Tyr Ala Gly Lys Gly Tyr  
20 25

<210> 16  
<211> 28

<212> PRT  
<213> Moraxella catarrhalis

<400> 16  
Leu Asp Ile Glu Lys Asn Lys Lys Arg Thr Glu Ala Glu Leu Gln  
1 5 10 15

Ala Glu Leu Asp Asp Lys Tyr Ala Gly Lys Gly Tyr  
20 25

<210> 17  
<211> 27  
<212> PRT  
<213> Moraxella catarrhalis

<400> 17  
Ile Asp Ile Glu Lys Lys Gly Lys Ile Arg Thr Glu Ala Leu Leu Ala  
1 5 10 15

Glu Leu Asn Lys Asp Tyr Pro Gly Gln Gly Tyr  
20 25

<210> 18  
<211> 25  
<212> PRT  
<213> Porphyromonas gingivalis

<400> 18  
Gly Val Ser Pro Lys Val Cys Lys Asp Val Thr Val Glu Gly Ser Asn  
1 5 10 15

Glu Phe Ala Pro Val Gln Asn Leu Thr  
20 25

<210> 19  
<211> 20  
<212> PRT  
<213> Porphyromonas gingivalis

<400> 19  
Arg Ile Gln Ser Thr Trp Arg Gln Lys Thr Val Asp Leu Pro Ala Gly  
1 5 10 15

Thr Lys Tyr Val  
20

<210> 20  
<211> 21  
<212> PRT  
<213> Trypanosoma cruzi

<400> 20  
Lys Ala Ala Ile Ala Pro Ala Lys Ala Ala Ala Pro Ala Lys Ala

1 5 10 15

Ala Thr Ala Pro Ala  
20

<210> 21  
<211> 24  
<212> PRT  
<213> Plasmodium falciparum

<400> 21  
Asn Ala Asn Pro Asn Val Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro  
1 5 10 15  
Asn Ala Asn Pro Asn Val Asp Pro  
20

<210> 22  
<211> 20  
<212> PRT  
<213> Plasmodium falciparum

<400> 22  
Asn Ala Asn Pro Asn Val Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro  
1 5 10 15  
Asn Ala Asn Pro  
20

<210> 23  
<211> 20  
<212> PRT  
<213> Plasmodium falciparum

<400> 23  
Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Val Asp Pro  
1 5 10 15  
Asn Ala Asn Pro  
20

<210> 24  
<211> 28  
<212> PRT  
<213> Plasmodium falciparum

<400> 24  
Asn Ala Asn Pro Asn Val Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro  
1 5 10 15  
Asn Ala Asn Pro Asn Val Asp Pro Asn Ala Asn Pro  
20 25

<210> 25  
<211> 20  
<212> PRT  
<213> Plasmodium falciparum

<400> 25  
Asn Pro Asn Val Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala  
1 5 10 15

Asn Pro Asn Val  
20

<210> 26  
<211> 22  
<212> PRT  
<213> Plasmodium falciparum

<400> 26  
Asn Pro Asn Val Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala  
1 5 10 15

Asn Pro Asn Val Asp Pro  
20

<210> 27  
<211> 24  
<212> PRT  
<213> Plasmodium falciparum

<400> 27  
Asn Pro Asn Val Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala  
1 5 10 15

Asn Pro Asn Val Asp Pro Asn Ala  
20

<210> 28  
<211> 18  
<212> PRT  
<213> Plasmodium falciparum

<400> 28  
Asn Val Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro  
1 5 10 15

Asn Val

<210> 29  
<211> 20  
<212> PRT  
<213> Plasmodium falciparum

<400> 29  
Asn Val Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro  
1 5 10 15

Asn Val Asp Pro  
20

<210> 30  
<211> 22  
<212> PRT  
<213> Plasmodium falciparum

<400> 30  
Asn Val Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro  
1 5 10 15

Asn Val Asp Pro Asn Ala  
20

<210> 31  
<211> 16  
<212> PRT  
<213> Plasmodium falciparum

<400> 31  
Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Val  
1 5 10 15

<210> 32  
<211> 18  
<212> PRT  
<213> Plasmodium falciparum

<400> 32  
Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Val  
1 5 10 15

Asp Pro

<210> 33  
<211> 20  
<212> PRT  
<213> Plasmodium falciparum

<400> 33  
Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Val  
1 5 10 15

Asp Pro Asn Ala  
20

<210> 34  
<211> 19  
<212> PRT  
<213> Plasmodium vivax

<400> 34  
Gly Asp Arg Ala Asp Gly Gln Pro Ala Gly Asp Arg Ala Asp Gly Gln  
1 5 10 15

Pro Ala Gly

<210> 35  
<211> 18  
<212> PRT  
<213> Plasmodium vivax

<400> 35  
Arg Ala Asp Asp Arg Ala Ala Gly Gln Pro Ala Gly Asp Gly Gln Pro  
1 5 10 15

Ala Gly

<210> 36  
<211> 18  
<212> PRT  
<213> Plasmodium vivax

<400> 36  
Ala Asn Gly Ala Gly Asn Gln Pro Gly Ala Asn Gly Ala Gly Asp Gln  
1 5 10 15

Pro Gly

<210> 37  
<211> 18  
<212> PRT  
<213> Plasmodium vivax

<400> 37  
Ala Asn Gly Ala Asp Asn Gln Pro Gly Ala Asn Gly Ala Asp Asp Gln  
1 5 10 15

Pro Gly

<210> 38  
<211> 18  
<212> PRT  
<213> Plasmodium vivax

<400> 38  
Ala Asn Gly Ala Gly Asn Gln Pro Gly Ala Asn Gly Ala Asp Asn Gln  
1 5 10 15

Pro Gly

<210> 39  
<211> 18  
<212> PRT  
<213> Plasmodium vivax

<400> 39  
Ala Asn Gly Ala Asp Asn Gln Pro Gly Ala Asn Gly Ala Asp Asp Gln  
1 5 10 15

Pro Gly

<210> 40  
<211> 22  
<212> PRT  
<213> Plasmodium vivax

<400> 40  
Ala Pro Gly Ala Asn Gln Glu Gly Gly Ala Ala Ala Pro Gly Ala Asn  
1 5 10 15

Gln Glu Gly Gly Ala Ala  
20

<210> 41  
<211> 16  
<212> PRT  
<213> Plasmodium berghei

<400> 41  
Asp Pro Pro Pro Pro Asn Pro Asn Asp Pro Pro Pro Pro Asn Pro Asn  
1 5 10 15

<210> 42  
<211> 24  
<212> PRT  
<213> Plasmodium yoelii

<400> 42  
Gln Gly Pro Gly Ala Pro Gln Gly Pro Gly Ala Pro Gln Gly Pro Gly  
1 5 10 15

Ala Pro Gln Gly Pro Gly Ala Pro  
20

<210> 43  
<211> 15  
<212> PRT  
<213> Streptococcus sobrinus

<400> 43  
Lys Pro Arg Pro Ile Tyr Glu Ala Lys Leu Ala Gln Asn Gln Lys  
1 5 10 15

<210> 44  
<211> 16  
<212> PRT  
<213> Streptococcus sobrinus

<400> 44  
Ala Lys Ala Asp Tyr Glu Ala Lys Leu Ala Gln Tyr Glu Lys Asp Leu  
1 5 10 15

<210> 45  
<211> 9  
<212> PRT  
<213> Shigella flexneri

<400> 45  
Lys Asp Arg Thr Leu Ile Glu Gln Lys  
1 5

<210> 46  
<211> 15  
<212> PRT  
<213> respiratory syncytial virus

<400> 46  
Cys Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Cys Lys  
1 5 10 15

<210> 47  
<211> 25  
<212> PRT  
<213> Entamoeba histolytica

<400> 47  
Val Glu Cys Ala Ser Thr Val Cys Gln Asn Asp Asn Ser Cys Pro Ile  
1 5 10 15  
  
Ile Ala Asp Val Glu Lys Cys Asn Gln  
20 25

<210> 48  
<211> 34  
<212> PRT

<213> Schistosoma japonicum

<400> 48  
Asp Leu Gln Ser Glu Ile Ser Leu Ser Leu Glu Asn Gly Glu Leu Ile  
1 5 10 15  
Arg Arg Ala Lys Ser Ala Glu Ser Leu Ala Ser Glu Leu Gln Arg Arg  
20 25 30  
Val Asp

<210> 49  
<211> 34  
<212> PRT  
<213> Schistosoma mansoni

<400> 49  
Asp Leu Gln Ser Glu Ile Ser Leu Ser Leu Glu Asn Ser Glu Leu Ile  
1 5 10 15  
Arg Arg Ala Lys Ala Ala Glu Ser Leu Ala Ser Asp Leu Gln Arg Arg  
20 25 30  
Val Asp

<210> 50  
<211> 16  
<212> PRT  
<213> Human immunodeficiency virus

<400> 50  
Gly Pro Lys Glu Pro Phe Arg Asp Tyr Val Asp Arg Phe Tyr Lys Cys  
1 5 10 15

<210> 51  
<211> 17  
<212> PRT  
<213> Corynebacterium diphtheriae

<400> 51  
Phe Gln Val Val His Asn Ser Tyr Asn Arg Pro Ala Tyr Ser Pro Gly  
1 5 10 15

Cys

<210> 52  
<211> 25  
<212> PRT  
<213> Borrelia burgdorferi

<400> 52  
Val Glu Ile Lys Glu Gly Thr Val Thr Leu Lys Arg Glu Ile Asp Lys  
1 5 10 15

Asn Gly Lys Val Thr Val Ser Leu Cys  
20 25

<210> 53  
<211> 19  
<212> PRT  
<213> *Borrelia burgdorferi*

<400> 53  
Thr Leu Ser Lys Asn Ile Ser Lys Ser Gly Glu Val Ser Val Glu Leu  
1 5 10 15

Asn Asp Cys

<210> 54  
<211> 11  
<212> PRT  
<213> *Influenza A virus*

<400> 54  
Ser Ser Val Ser Ser Phe Glu Arg Phe Glu Cys  
1 5 10

<210> 55  
<211> 21  
<212> PRT  
<213> *Trypanosoma cruzi*

<400> 55  
Ser His Asn Phe Thr Leu Val Ala Ser Val Ile Ile Glu Glu Ala Pro  
1 5 10 15

Ser Gly Asn Thr Cys  
20

<210> 56  
<211> 16  
<212> PRT  
<213> *Plasmodium falciparum*

<400> 56  
Ser Val Gln Ile Pro Lys Val Pro Tyr Pro Asn Gly Ile Val Tyr Cys  
1 5 10 15

<210> 57  
<211> 16  
<212> PRT

<213> Plasmodium falciparum

<400> 57

Asp Phe Asn His Tyr Tyr Thr Leu Lys Thr Gly Leu Glu Ala Asp Cys  
1 5 10 15

<210> 58

<211> 18

<212> PRT

<213> Plasmodium falciparum

<400> 58

Pro Ser Asp Lys His Ile Glu Gln Tyr Lys Lys Ile Lys Asn Ser Ile  
1 5 10 15

Ser Cys

<210> 59

<211> 20

<212> PRT

<213> Plasmodium falciparum

<400> 59

Glu Tyr Leu Asn Lys Ile Gln Asn Ser Leu Ser Thr Glu Trp Ser Pro  
1 5 10 15

Cys Ser Val Thr  
20

<210> 60

<211> 19

<212> PRT

<213> Plasmodium vivax

<400> 60

Tyr Leu Asp Lys Val Arg Ala Thr Val Gly Thr Glu Trp Thr Pro Cys  
1 5 10 15

Ser Val Thr

<210> 61

<211> 16

<212> PRT

<213> Streptococcus sobrinus

<400> 61

Lys Pro Arg Pro Ile Tyr Glu Ala Lys Leu Ala Gln Asn Gln Lys Cys  
1 5 10 15

<210> 62

<211> 17  
<212> PRT  
<213> Streptococcus sobrinus

<400> 62  
Ala Lys Ala Asp Tyr Glu Ala Lys Leu Ala Gln Tyr Glu Lys Asp Leu  
1 5 10 15

Cys

<210> 63  
<211> 16  
<212> PRT  
<213> Lymphocytic choriomeningitis virus

<400> 63  
Arg Pro Gln Ala Ser Gly Val Tyr Met Gly Asn Leu Thr Ala Gln Cys  
1 5 10 15

<210> 64  
<211> 16  
<212> PRT  
<213> Clostridium tetani

<400> 64  
Gln Tyr Ile Lys Ala Asn Ser Lys Phe Ile Gly Ile Thr Glu Leu Cys  
1 5 10 15

<210> 65  
<211> 18  
<212> DNA  
<213> plasmid pKK223

<400> 65  
ggtgcatgca aggagatg 18

<210> 66  
<211> 55  
<212> DNA  
<213> plasmid pKK223

<400> 66  
gcgaagcttc ggatccatg gtttttcct ccttatgtga aattgttatac cgctc 55

<210> 67  
<211> 24  
<212> DNA  
<213> Hepatitis B virus

<400> 67  
ttgggccatg gacatcgacc ctta 24

<210> 68  
<211> 29  
<212> DNA  
<213> Hepatitis B virus

<400> 68  
gcggaattcc ttccaaatata acacccacc 29

<210> 69  
<211> 38  
<212> DNA  
<213> Hepatitis B virus

<400> 69  
cgcgaaattca aaaagagctc gatccagcgt ctagagac 38

<210> 70  
<211> 31  
<212> DNA  
<213> Hepatitis B virus

<400> 70  
cgcaagctta aacaacagta gtctccggaa g 31

<210> 71  
<211> 40  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: human  
cytochrome 450

<400> 71  
cgagctgtac atttgcgttt tcgtctagct gttttcttg 40

<210> 72  
<211> 31  
<212> DNA  
<213> Hepatitis B virus

<400> 72  
gcggaattcc atcttccaaa ttaacaccca c 31

<210> 73  
<211> 39  
<212> DNA  
<213> Hepatitis B virus

<400> 73

cgcaattca aaaagagctc ccagcgtcta gagacctag	39
<210> 74	
<211> 39	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Description of Artificial Sequence: human	
cytochrome P450	
<400> 74	
caagaaaaac agcttagacga aaacgcaaat gtacagctc	39
<210> 75	
<211> 42	
<212> DNA	
<213> Hepatitis B virus	
<400> 75	
cgcaagctta gagctttga attccaacaa cagtagtctc cg	42
<210> 76	
<211> 28	
<212> DNA	
<213> Hepatitis B virus	
<400> 76	
cgcgagctcc cagcgtctag agacctag	28
<210> 77	
<211> 17	
<212> DNA	
<213> plasmid pKK223	
<400> 77	
gtatcaggct gaaaatc	17
<210> 78	
<211> 19	
<212> PRT	
<213> Plasmodium falciparum	
<400> 78	
Ile Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn	
1 5 10 15	
Pro Glu Leu	
<210> 79	

<211> 57  
 <212> DNA  
 <213> Plasmodium falciparum

<400> 79  
 aattaacgct aatccgaacg ctaatccgaa cgctaattcg aacgctaattc cgaggact 57

<210> 80  
 <211> 49  
 <212> DNA  
 <213> Plasmodium falciparum

<400> 80  
 ccggattagc gttcggatta gcgttcggat tagcgttcgg attagcgtt 49

<210> 81  
 <211> 31  
 <212> PRT  
 <213> Plasmodium falciparum

<400> 81  
 Ile Asn Ala Asn Pro Asn Val Asp Pro Asn Ala Asn Pro Asn Ala Asn  
 1 5 10 15

Pro Asn Ala Asn Pro Asn Val Asp Pro Asn Ala Asn Pro Glu Leu  
 20 25 30

<210> 82  
 <211> 93  
 <212> DNA  
 <213> Plasmodium falciparum

<400> 82  
 aattaacgct aatccgaacg ttgacccgaa cgctaattcg aacgctaattc cgaacgctaa 60  
 tccgaacggtt gacccgaacg ctaatccgga gct 93

<210> 83  
 <211> 91  
 <212> DNA  
 <213> Plasmodium falciparum

<400> 83  
 ggagctccgg attagcggtt gggtaacgt tcggattagc gttcggatta gcgttcggat 60  
 tagcgttcgg gtcaacggtt ggattagcgt t 91

<210> 84  
 <211> 23  
 <212> PRT  
 <213> Plasmodium falciparum

<400> 84  
 Ile Asn Ala Asn Pro Asn Val Asp Pro Asn Ala Asn Pro Asn Ala Asn

1 5 10 15

Pro Asn Ala Asn Pro Glu Leu  
20

<210> 85  
<211> 69  
<212> DNA  
<213> Plasmodium falciparum

<400> 85  
aattaacgcg aatccgaacg tggatccgaa tgccaaccct aacgccaacc caaatgcgaa 60  
cccagagct 69

<210> 86  
<211> 61  
<212> DNA  
<213> Plasmodium falciparum

<400> 86  
ctgggttcgc atttgggttg gcttaggg tggcattcgg atccacgttc ggattcgcgt 60  
t 61

<210> 87  
<211> 23  
<212> PRT  
<213> Plasmodium falciparum

<400> 87  
Ile Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Val Asp  
1 5 10 15

Pro Asn Ala Asn Pro Glu Leu  
20

<210> 88  
<211> 69  
<212> DNA  
<213> Plasmodium falciparum

<400> 88  
aattaacgcg aatccgaatg ccaaccctaa cgccaaccct aacgtggatc cgaatgcgaa 60  
cccagagct 69

<210> 89  
<211> 61  
<212> DNA  
<213> Plasmodium falciparum

<400> 89  
ctgggttcgc attcggatcc acgtttgggt tggcgtagg gttggcattc ggattcgcgt 60  
t 61

<210> 90  
<211> 31  
<212> PRT  
<213> Plasmodium falciparum

<400> 90  
Ile Asn Ala Asn Pro Asn Val Asp Pro Asn Ala Asn Pro Asn Ala Asn  
1 5 10 15

Pro Asn Ala Asn Pro Asn Val Asp Pro Asn Ala Asn Pro Glu Leu  
20 25 30

<210> 91  
<211> 93  
<212> DNA  
<213> Plasmodium falciparum

<400> 91  
aattaacgca aatccgaacg tggatccaaa tgccaaccct aacgctaattc caaacgc当地 60  
cccgaatgtt gaccccaatg ccaatccgga gct 93

<210> 92  
<211> 85  
<212> DNA  
<213> Plasmodium falciparum

<400> 92  
ccggattggc attggggtca acattcggtt tggcgtttgg attagcgta gggttggcat 60  
tttgatccac gttcggattc gcgtt 85

<210> 93  
<211> 23  
<212> PRT  
<213> Plasmodium falciparum

<400> 93  
Ile Asn Pro Asn Val Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn  
1 5 10 15

Ala Asn Pro Asn Val Glu Leu  
20

<210> 94  
<211> 69  
<212> DNA  
<213> Plasmodium falciparum

<400> 94  
aattaatccg aacgtggatc caaatgc当地 ccctaacgct aatccaaacg ccaacccgaa 60  
tgttgagct 69

<210> 95  
<211> 61  
<212> DNA  
<213> Plasmodium falciparum

<400> 95  
caacatttcgg gttggcggtt ggatttagcgt tagggttggc atttggatcc acgttcggat 60  
t

<210> 96  
<211> 25  
<212> PRT  
<213> Plasmodium falciparum

<400> 96  
Ile Asn Pro Asn Val Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn  
1 5 10 15

Ala Asn Pro Asn Val Asp Pro Glu Leu  
20 25

<210> 97  
<211> 75  
<212> DNA  
<213> Plasmodium falciparum

<400> 97  
aattaatccg aacgtggatc caaatgccaa ccctaacgct aatccaaacg ccaacccgaa 60  
tgttgaccct gagct 75

<210> 98  
<211> 67  
<212> DNA  
<213> Plasmodium falciparum

<400> 98  
cagggtcaac attcgggttg gcgtttggat tagcgttagg gttggcattt ggatccacgt 60  
tcggatt 67

<210> 99  
<211> 27  
<212> PRT  
<213> Plasmodium falciparum

<400> 99  
Ile Asn Pro Asn Val Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn  
1 5 10 15

Ala Asn Pro Asn Val Asp Pro Asn Ala Glu Leu  
20 25

<210> 100  
<211> 81  
<212> DNA  
<213> Plasmodium falciparum

<400> 100  
aattaatccg aacgtggatc caaatgccaa ccctaacgct aatccaaacg ccaacccgaa 60  
tgttgaccct aatgctgagc t 81

<210> 101  
<211> 73  
<212> DNA  
<213> Plasmodium falciparum

<400> 101  
cagcattagg gtcaacatTC gggTggcgt ttggattAGC gttagggTTG gcattTggAT 60  
ccacgttCGG att 73

<210> 102  
<211> 21  
<212> PRT  
<213> Plasmodium falciparum

<400> 102  
Ile Asn Val Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn  
1 5 10 15

Pro Asn Val Glu Leu  
20

<210> 103  
<211> 63  
<212> DNA  
<213> Plasmodium falciparum

<400> 103  
aattaacgtg gatccaaatg ccaaccctaa cgctaattca aacgccaacc cgaatgttga 60  
gct 63

<210> 104  
<211> 55  
<212> DNA  
<213> Plasmodium falciparum

<400> 104  
caacattcgg gttggcgTTT ggattAGCgt tagggTTGGC atttggatCC acgtt 55

<210> 105  
<211> 23  
<212> PRT  
<213> Plasmodium falciparum

<400> 105  
Ile Asn Val Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn  
1 5 10 15

Pro Asn Val Asp Pro Glu Leu  
20

<210> 106  
<211> 69  
<212> DNA  
<213> Plasmodium falciparum

<400> 106  
aattaacgtg gatccaaatg ccaaccctaa cgctaattca aacgccaacc cgaatgttga 60  
ccctgagct 69

<210> 107  
<211> 61  
<212> DNA  
<213> Plasmodium falciparum

<400> 107  
cagggtcaac attcgggttg gcgtttggat tagcgtagg gttggcattt ggatccacgt 60  
t 61

<210> 108  
<211> 25  
<212> PRT  
<213> Plasmodium falciparum

<400> 108  
Ile Asn Val Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn  
1 5 10 15

Pro Asn Val Asp Pro Asn Ala Glu Leu  
20 25

<210> 109  
<211> 75  
<212> DNA  
<213> Plasmodium falciparum

<400> 109  
aattaacgtg gatccaaatg ccaaccctaa cgctaattca aacgccaacc cgaatgttga 60  
ccctaattgcct gagct 75

<210> 110  
<211> 67  
<212> DNA  
<213> Plasmodium falciparum

<400> 110

cagcattagg gtcaacatTC gggttggcgt ttggattAGC gttAGGGTTG gcattTggAT 60  
ccacgTT 67

<210> 111  
<211> 19  
<212> PRT  
<213> Plasmodium falciparum

<400> 111  
Ile Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn  
1 5 10 15

Val Glu Leu

<210> 112  
<211> 57  
<212> DNA  
<213> Plasmodium falciparum

<400> 112  
aattgatcca aatgccaacc ctaacgctaa tccaaacgcc aacccgaatg ttgagct 57

<210> 113  
<211> 49  
<212> DNA  
<213> Plasmodium falciparum

<400> 113  
caacattcgg gttggcgTTT ggattAGCgt tagggTTggc atttggatC 49

<210> 114  
<211> 21  
<212> PRT  
<213> Plasmodium falciparum

<400> 114  
Ile Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn  
1 5 10 15

Val Asp Pro Glu Leu  
20

<210> 115  
<211> 63  
<212> DNA  
<213> Plasmodium falciparum

<400> 115  
aattgatcca aatgccaacc ctaacgctaa tccaaacgcc aacccgaatg ttgaccCTGA 60  
gCT 63

<210> 116  
<211> 55  
<212> DNA  
<213> Plasmodium falciparum

<400> 116  
cagggtcaac attcggttg gcgttggat tagcgtagg gttggcattt ggatc 55

<210> 117  
<211> 23  
<212> PRT  
<213> Plasmodium falciparum

<400> 117  
Ile Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn  
1 5 10 15

Val Asp Pro Asn Ala Glu Leu  
20

<210> 118  
<211> 69  
<212> DNA  
<213> Plasmodium falciparum

<400> 118  
aattgatcca aatgccaacc ctaacgctaa tccaaacgcc aaccgaatg ttgaccctaa 60  
tgccgagct 69

<210> 119  
<211> 61  
<212> DNA  
<213> Plasmodium falciparum

<400> 119  
cgccattagg gtcaacattc gggttggcgt ttggattagc gttagggttg gcatttggat 60  
c 61

<210> 120  
<211> 21  
<212> PRT  
<213> Plasmodium falciparum

<400> 120  
Ile Glu Tyr Leu Asn Lys Ile Gln Asn Ser Leu Ser Thr Glu Trp Ser  
1 5 10 15

Pro Cys Ser Val Thr  
20

<210> 121

<211> 69  
<212> DNA  
<213> Plasmodium falciparum

<400> 121  
aattgaatat ctgaacaaaa tccagaactc tctgtccacc gaatggtctc cgtgctccgt 60  
tacctagta 69

<210> 122  
<211> 69  
<212> DNA  
<213> Plasmodium falciparum

<400> 122  
agcttactag gtaacggagc acggagacca ttcgggtggac agagagttct ggattttgtt 60  
cagatattc 69

<210> 123  
<211> 24  
<212> PRT  
<213> Plasmodium vivax

<400> 123  
Ile Pro Ala Gly Asp Arg Ala Asp Gly Gln Pro Ala Gly Asp Arg Ala  
1 5 10 15  
Ala Gly Gln Pro Ala Gly Glu Leu  
20

<210> 124  
<211> 72  
<212> DNA  
<213> Plasmodium vivax

<400> 124  
aattccggct ggtgaccgtg cagatggcca gccaggggt gaccgcgtg caggccagcc 60  
ggctggcgag ct 72

<210> 125  
<211> 64  
<212> DNA  
<213> Plasmodium vivax

<400> 125  
cgccagccgg ctggcctgca gcgcggcac ccgctggctg gccatctgca cggtcaccag 60  
ccgg 64

<210> 126  
<211> 21  
<212> PRT  
<213> Plasmodium vivax

<400> 126  
Ile Asp Arg Ala Ala Gly Gln Pro Ala Gly Asp Arg Ala Asp Gly Gln  
1 5 10 15

Pro Ala Gly Glu Leu  
20

<210> 127  
<211> 63  
<212> DNA  
<213> Plasmodium vivax

<400> 127  
aattgacaga gcagccggac aaccaggcagg cgatcgagca gacggacagc ccgcaggaaa 60  
gct 63

<210> 128  
<211> 55  
<212> DNA  
<213> Plasmodium vivax

<400> 128  
ccccctgcggg ctgtccgtct gctcgatcgc ctgctggttg tccggctgct ctgtc 55

<210> 129  
<211> 21  
<212> PRT  
<213> Plasmodium vivax

<400> 129  
Ile Ala Asn Gly Ala Gly Asn Gln Pro Gly Ala Asn Gly Ala Gly Asp  
1 5 10 15  
Gln Pro Gly Glu Leu  
20

<210> 130  
<211> 63  
<212> DNA  
<213> Plasmodium vivax

<400> 130  
aattgcgaac ggccggta atcagccggg ggcaaacggc gcgggtgatc aaccaggaaa 60  
gct 63

<210> 131  
<211> 55  
<212> DNA  
<213> Plasmodium vivax

<400> 131  
ccccctgggg atcaccccgccg ccgttgcggcc cggtgttgcatt accggcgccg ttgc 55

```

<210> 132
<211> 21
<212> PRT
<213> Plasmodium vivax

<400> 132
Ile Ala Asn Gly Ala Asp Asn Gln Pro Gly Ala Asn Gly Ala Asp Asp
1 5 10 15

Gln Pro Gly Glu Leu
20

<210> 133
<211> 63
<212> DNA
<213> Plasmodium vivax

<400> 133
aattgcgaac ggccggata atcagccggg tgcaaacggg gcggatgacc aaccaggcga 60
gct 63

<210> 134
<211> 55
<212> DNA
<213> Plasmodium vivax

<400> 134
cgccctggttg gtcatccgcc ccgttgcac ccggctgatt atcggcgccg ttgc 55

<210> 135
<211> 39
<212> PRT
<213> Plasmodium vivax

<400> 135
Ile Ala Asn Gly Ala Gly Asn Gln Pro Gly Ala Asn Gly Ala Gly Asp
1 5 10 15

Gln Pro Gly Ala Asn Gly Ala Asp Asn Gln Pro Gly Ala Asn Gly Ala
20 25 30

Asp Asp Gln Pro Gly Glu Leu
35

<210> 136
<211> 117
<212> DNA
<213> Plasmodium vivax

<400> 136
aattgcgaac ggccggata atcagccggg agcaaacggc gcggggatc aaccaggcgc 60

```

caatggtgca gacaaccagc ctggggcgaa tggagccgat gaccaaccggc gcgagct 117

<210> 137

<211> 109

<212> DNA

<213> Plasmodium vivax

<400> 137

cgcgggttg gtcatcggtt ccattcgccc caggctggtt gtctgcacca ttggcgctg 60  
gttgcgtttt cgccggcgtt gatccggc gccgttcgc 109

<210> 138

<211> 25

<212> PRT

<213> Plasmodium vivax

<400> 138

Ile Ala Pro Gly Ala Asn Gln Glu Gly Gly Ala Ala Ala Pro Gly Ala  
1 5 10 15

Asn Gln Glu Gly Gly Ala Ala Glu Leu  
20 25

<210> 139

<211> 75

<212> DNA

<213> Plasmodium vivax

<400> 139

aattgcgccg ggcccaacc aggaagggtgg ggctgcagcg ccaggagcca atcaagaagg 60  
cggtgcagcg gagct 75

<210> 140

<211> 67

<212> DNA

<213> Plasmodium vivax

<400> 140

ccgctgcacc gccttcttga ttggctcctg ggcgtgcagc cccaccttcc tggttggcgc 60  
ccggcgc 67

<210> 141

<211> 21

<212> PRT

<213> Plasmodium vivax

<400> 141

Ile Glu Tyr Leu Asp Lys Val Arg Ala Thr Val Gly Thr Glu Trp Thr  
1 5 10 15

Pro Cys Ser Val Thr  
20

<210> 142  
<211> 69  
<212> DNA  
<213> Plasmodium vivax

<400> 142  
aattgaataat ctggataaaag tgcgtgcgac cggtggcactg gaatggactc cgtgcagcgt 60  
gacctataa 69

<210> 143  
<211> 69  
<212> DNA  
<213> Plasmodium vivax

<400> 143  
agcttatttag gtcacgctgc acggagtcca ttccgtgccg acgggtcgac gcactttatc 60  
cagatattc 69

<210> 144  
<211> 10  
<212> PRT  
<213> Plasmodium falciparum

<400> 144  
Thr Val Ser Ala Pro Ser Trp Glu Thr Ser  
1 5 10

<210> 145  
<211> 42  
<212> DNA  
<213> Plasmodium falciparum

<400> 145  
gcctaagctta ctaggtaacg gaggccggag accattcggg 42  
gg

<210> 146  
<211> 44  
<212> DNA  
<213> Plasmodium vivax

<400> 146  
cgcgaaattca agcgaacggc gccgataatc agccggcggg tgca 44  
tgca

<210> 147  
<211> 8  
<212> PRT  
<213> Hepatitis B virus

<400> 147  
Cys Val Val Thr Thr Glu Pro Leu

1

5

<210> 148  
<211> 37  
<212> DNA  
<213> Hepatitis B virus

<400> 148  
cgcaagctta ctagcaaaca acagtagtct ccggaag

37

<210> 149  
<211> 7  
<212> PRT  
<213> Hepatitis B virus

<400> 149  
Pro Leu Thr Ser Leu Ile Pro  
1 5

<210> 150  
<211> 32  
<212> DNA  
<213> Hepatitis B virus

<400> 150  
cgcaagctta cggaagtgtt gataggatag gg

32

<210> 151  
<211> 8  
<212> PRT  
<213> Hepatitis B virus

<400> 151  
Thr Ser Leu Ile Pro Ala Asn Pro  
1 5

<210> 152  
<211> 34  
<212> DNA  
<213> Hepatitis B virus

<400> 152  
cgcaagctta tgttgatagg atagggcat ttgg

34

<210> 153  
<211> 7  
<212> PRT  
<213> Hepatitis B virus

<400> 153  
Leu Ile Pro Ala Asn Pro Pro

1

5

<210> 154  
<211> 31  
<212> DNA  
<213> Hepatitis B virus

<400> 154  
cgcaagctta taggataggg gcatttggtg g

31

<210> 155  
<211> 6  
<212> PRT  
<213> Hepatitis B virus

<400> 155  
Ile Pro Ala Asn Pro Pro  
1 5

<210> 156  
<211> 28  
<212> DNA  
<213> Hepatitis B virus

<400> 156  
gcgaagctta gataggggca tttgggtgg

28

<210> 157  
<211> 6  
<212> PRT  
<213> Hepatitis B virus

<400> 157  
Pro Ala Asn Pro Pro Arg  
1 5

<210> 158  
<211> 28  
<212> DNA  
<213> Hepatitis B virus

<400> 158  
cgcaagctta aggggcattt ggtggct

28

<210> 159  
<211> 7  
<212> PRT  
<213> Hepatitis B virus

<400> 159  
Cys Pro Ala Asn Pro Pro Arg

1

5

<210> 160  
<211> 7  
<212> PRT  
<213> Hepatitis B virus

<400> 160  
Ala Asn Pro Pro Arg Tyr Ala  
1 5

<210> 161  
<211> 31  
<212> DNA  
<213> Hepatitis B virus

<400> 161  
gcgaagctta gcaaggggca tttgggtggtc t

31

<210> 162  
<211> 30  
<212> DNA  
<213> Hepatitis B virus

<400> 162  
gcgaagctta ggcatttggc ggtctatagc

30

<210> 163  
<211> 8  
<212> PRT  
<213> Hepatitis B virus

<400> 163  
Cys Ala Asn Pro Pro Arg Tyr Ala  
1 5

<210> 164  
<211> 32  
<212> DNA  
<213> Hepatitis B virus

<400> 164  
gcgaagctta gcaggcattt ggtggtctat aa

32

<210> 165  
<211> 7  
<212> PRT  
<213> Hepatitis B virus

<400> 165  
Asn Pro Pro Arg Tyr Ala Pro

1

5

<210> 166  
<211> 31  
<212> DNA  
<213> Hepatitis B virus

<400> 166  
cgcaagctta atttgggtggt ctataagctg g

31

<210> 167  
<211> 8  
<212> PRT  
<213> Plasmodium falciparum

<400> 167  
Asn Ala Asn Pro Asn Val Asp Pro  
1 5

<210> 168  
<211> 6  
<212> PRT  
<213> Homo sapiens

<400> 168  
Asn Tyr Lys Lys Pro Lys  
1 5

<210> 169  
<211> 7  
<212> PRT  
<213> Hepatitis B virus

<400> 169  
Lys Arg Gly Pro Arg Thr His  
1 5

<210> 170  
<211> 21  
<212> PRT  
<213> Homo sapiens

<400> 170  
Leu His Pro Asp Glu Thr Lys Asn Met Leu Glu Met Ile Phe Thr Pro  
1 5 10 15  
  
Arg Asn Ser Asp Arg  
20

<210> 171  
<211> 5

<212> PRT  
<213> Human immunodeficiency virus type 1

<400> 171  
Arg Ile Lys Gln Ile  
1 5

<210> 172  
<211> 11  
<212> PRT  
<213> Human immunodeficiency virus type 1

<400> 172  
Arg Ile Lys Gln Ile Gly Met Pro Gly Gly Lys  
1 5 10

<210> 173  
<211> 10  
<212> PRT  
<213> Human immunodeficiency virus type 1

<400> 173  
Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu  
1 5 10

<210> 174  
<211> 14  
<212> PRT  
<213> Human immunodeficiency virus type 1

<400> 174  
Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu Trp  
1 5 10

<210> 175  
<211> 33  
<212> PRT  
<213> Human immunodeficiency virus type 1

<400> 175  
Val Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His  
1 5 10 15

Leu Leu Gln Leu Thr Val Trp Gly Ile Lys Gln Leu Gln Ala Arg Ile  
20 25 30

Leu

<210> 176  
<211> 16  
<212> PRT

<213> Human immunodeficiency virus type 1

<400> 176

His Leu Leu Gln Leu Thr Val Trp Gly Ile Lys Gln Leu Gln Ala Arg  
1 5 10 15

<210> 177

<211> 36

<212> PRT

<213> Human immunodeficiency virus type 1

<400> 177

Tyr Thr His Ile Ile Tyr Ser Leu Ile Glu Gln Ser Gln Asn Gln Gln  
1 5 10 15

Glu Lys Asn Glu Gln Glu Leu Leu Ala Leu Asp Lys Trp Ala Ser Leu  
20 25 30

Trp Asn Trp Phe  
35

<210> 178

<211> 26

<212> PRT

<213> Human immunodeficiency virus type 1

<400> 178

Tyr Thr His Ile Ile Tyr Ser Leu Ile Glu Gln Ser Gln Asn Gln Gln  
1 5 10 15

Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu  
20 25

<210> 179

<211> 19

<212> PRT

<213> Homo sapiens

<400> 179

Gly Arg Glu Arg Arg Pro Arg Leu Ser Asp Arg Pro Gln Leu Pro Tyr  
1 5 10 15

Leu Glu Ala

<210> 180

<211> 20

<212> PRT

<213> Homo sapiens

<400> 180

Arg Glu Gln Arg Arg Phe Ser Val Ser Thr Leu Arg Asn Leu Gly Leu  
1 5 10 15

Gly Lys Lys Ser  
20

<210> 181  
<211> 18  
<212> PRT  
<213> Plasmodium yoelii

<400> 181  
Pro Asn Lys Leu Pro Arg Ser Thr Ala Val Val His Gln Leu Lys Arg  
1               5               10               15  
Lys His

<210> 182  
<211> 11  
<212> PRT  
<213> Plasmodium yoelii

<400> 182  
Thr Ala Val Val His Gln Leu Lys Arg Lys His  
1               5               10

<210> 183  
<211> 22  
<212> PRT  
<213> Plasmodium vivax

<400> 183  
Pro Ala Gly Asp Arg Ala Asp Gly Gln Pro Ala Gly Asp Arg Ala Ala  
1               5               10               15  
Ala Gly Gln Pro Ala Gly  
20

<210> 184  
<211> 12  
<212> PRT  
<213> Avian leukosis virus

<400> 184  
Asn Gln Ser Trp Thr Met Val Ser Pro Ile Asn Val  
1               5               10

<210> 185  
<211> 16  
<212> PRT  
<213> Avian leukosis virus

<400> 185

Met Ile Lys Asn Gly Thr Lys Arg Thr Ala Val Thr Phe Gly Ser Val  
1 5 10 15

<210> 186  
<211> 19  
<212> PRT  
<213> Foot-and-mouth disease virus

<400> 186  
Pro Asn Leu Arg Gly Asp Leu Gln Val Leu Ala Gln Lys Val Ala Arg  
1 5 10 15

Thr Leu Pro

<210> 187  
<211> 26  
<212> PRT  
<213> Foot-and-mouth disease virus

<400> 187  
Arg Tyr Asn Arg Asn Ala Val Pro Asn Leu Arg Gly Asp Leu Gln Val  
1 5 10 15

Leu Ala Gln Lys Val Ala Arg Thr Leu Pro  
20 25

<210> 188  
<211> 17  
<212> PRT  
<213> Hepatitis C virus

<400> 188  
Asp Ala Glu Phe Arg His Asp Ser Gly Tyr Glu Val His His Gln Lys  
1 5 10 15

Leu

<210> 189  
<211> 34  
<212> PRT  
<213> Hepatitis B virus

<400> 189  
Arg Arg Arg Gly Arg Ser Pro Arg Arg Arg Thr Pro Ser Pro Arg Arg  
1 5 10 15  
  
Arg Arg Ser Gln Ser Pro Arg Arg Arg Ser Gln Ser Arg Glu Ser  
20 25 30

Gln Cys

<210> 190  
<211> 16  
<212> PRT  
<213> Hepatitis B virus

<400> 190  
Gly Ile Val Asn Leu Glu Asp Pro Ala Ser Arg Asp Leu Val Val Ser  
1 5 10 15

<210> 191  
<211> 17  
<212> PRT  
<213> Hepatitis B virus

<400> 191  
Gly Ile Val Asn Leu Glu Asp Pro Ala Ser Arg Asp Leu Val Val Ser  
1 5 10 15

Cys

<210> 192  
<211> 20  
<212> PRT  
<213> Plasmodium falciparum

<400> 192  
Glu Tyr Leu Asn Lys Ile Gln Asn Ser Leu Ser Thr Glu Trp Ser Pro  
1 5 10 15

Cys Ser Val Thr  
20

<210> 193  
<211> 9  
<212> PRT  
<213> Plasmodium vivax

<220>  
<221> MOD\_RES  
<222> (4)  
<223> Xaa at position 4 represents A or D

<400> 193  
Asp Arg Ala Xaa Gly Gln Pro Ala Gly  
1 5

<210> 194  
<211> 9  
<212> PRT  
<213> Plasmodium vivax

<220>  
<221> MOD\_RES  
<222> (5)  
<223> Xaa at position 5 represents G or D

<400> 194  
Ala Asn Gly Ala Xaa Asx Gln Pro Gly  
1 5

<210> 195  
<211> 11  
<212> PRT  
<213> Plasmodium vivax

<400> 195  
Ala Pro Gly Ala Asn Gln Glu Gly Gly Ala Ala  
1 5 10

<210> 196  
<211> 19  
<212> PRT  
<213> Plasmodium vivax

<400> 196  
Tyr Leu Asp Lys Val Arg Ala Thr Val Gly Thr Glu Trp Thr Pro Cys  
1 5 10 15

Ser Val Thr

<210> 197  
<211> 21  
<212> PRT  
<213> Plasmodium vivax

<400> 197  
Pro Ala Gly Asp Arg Ala Asp Gly Gln Pro Ala Gly Asp Arg Ala Ala  
1 5 10 15  
  
Gly Gln Pro Ala Gly  
20

<210> 198  
<211> 18  
<212> PRT  
<213> Plasmodium vivax

<400> 198  
Asp Arg Ala Ala Gly Gln Pro Ala Gly Asp Arg Ala Asp Gly Gln Pro  
1 5 10 15  
  
Ala Gly

<210> 199  
<211> 36  
<212> PRT  
<213> Plasmodium vivax

<400> 199  
Ala Asn Gly Ala Gly Asn Gln Pro Gly Ala Asn Gly Ala Gly Asp Gln  
1 5 10 15

Pro Gly Ala Asn Gly Ala Asp Asn Gln Pro Gly Ala Asn Gly Ala Asp  
20 25 30

Asp Gln Pro Gly  
35

<210> 200  
<211> 18  
<212> PRT  
<213> Plasmodium vivax

<400> 200  
Ala Asn Gly Ala Gly Asn Gln Pro Gly Ala Asn Gly Ala Gly Asp Gln  
1 5 10 15

Pro Gly

<210> 201  
<211> 19  
<212> PRT  
<213> Plasmodium vivax

<400> 201  
Gln Ala Asn Gly Ala Asp Asn Gln Pro Gly Ala Asn Gly Ala Asp Asp  
1 5 10 15

Gln Pro Gly

<210> 202  
<211> 22  
<212> PRT  
<213> Plasmodium vivax

<400> 202  
Ala Pro Gly Ala Asn Gln Glu Gly Gly Ala Ala Ala Pro Gly Ala Asn  
1 5 10 15

Gln Glu Gly Gly Ala Ala  
20

<210> 203  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Hepatitis B virus PCR primer with an NcoI restriction site

<400> 203  
ttgggccatg gacatcgacc ctta 24

<210> 204  
<211> 34  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Hepatitis B virus PCR primer with an EcoRI restriction site.

<400> 204  
gcggagctct ttttccaaat taattaacac ccac 34

<210> 205  
<211> 30  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Hepatitis B virus PCR primer with EcoRI and SacI restriction sites and an inserted lysine codon

<400> 205  
cgcgagctcg atccagcgtc tagagagacc 30

<210> 206  
<211> 31  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Hepatitis B virus PCR primer with HindIII restriction site

<400> 206  
cgcaagctta aacaacagta gtctccggaa g 31

<210> 207  
<211> 14  
<212> PRT

<213> Hepatitis B virus

<400> 207

Cys Gln Glu Lys Gln Leu Asp Glu Asn Ala Asn Val Gln Leu  
1 5 10

<210> 208

<211> 13

<212> PRT

<213> Hepatitis B virus

<400> 208

Cys Ser Lys Lys Gly Pro Arg Ala Ser Gly Asn Leu Ile  
1 5 10

<210> 209

<211> 21

<212> PRT

<213> Hepatitis B virus

<400> 209

Cys Leu Leu Thr Glu His Arg Met Thr Trp Asp Pro Ala Gln Pro Pro  
1 5 10 15

Arg Asp Leu Thr Glu

20

<210> 210

<211> 22

<212> PRT

<213> Hepatitis B virus

<400> 210

Cys Val Lys Arg Met Lys Glu Ser Arg Leu Glu Asp Thr Gln Lys His  
1 5 10 15

Arg Val Asp Phe Leu Gln

20

<210> 211

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Cytochrome  
P-450 fragment

<400> 211

Cys Met Gln Leu Arg Ser  
1 5

<210> 212  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Cytochrome  
P-450 fragment

<400> 212  
Cys Arg Phe Ser Ile Asn  
1 5

<210> 213  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Cytochrome  
P-450 fragment

<400> 213  
Cys Ala Val Pro Arg  
1 5

<210> 214  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Cytochrome  
P-450 fragment

<400> 214  
Cys Val Ile Pro Arg Ser  
1 5

<210> 215  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Cytochrome  
P-450 fragment

<400> 215  
Cys Phe Ile Pro Val  
1 5

<210> 216

<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Cytochrome  
P-450 fragment

<400> 216  
Cys Thr Val Ser Gly Ala  
1 5

<210> 217  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Cytochrome  
P-450 fragment

<400> 217  
Cys Thr Leu Ser Gly Glu  
1 5

<210> 218  
<211> 20  
<212> PRT  
<213> Hepatitis B virus

<400> 218  
Thr Trp Val Gly Val Asn Leu Glu Asp Pro Ala Ser Arg Asp Leu Val  
1 5 10 15

Val Ser Tyr Val  
20

<210> 219  
<211> 63  
<212> DNA  
<213> Hepatitis B virus

<400> 219  
gctacacctggg tgggtgttaa ttggaaagat ccagcgtcta gagacctagt agtcagttat 60  
gtc 63

<210> 220  
<211> 21  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: K inserted at

amino acid position 75 of Hepatitis B core

<400> 220  
Thr Trp Val Gly Val Lys Asn Leu Glu Asp Pro Ala Ser Arg Asp Leu  
1 5 10 15  
Val Val Ser Tyr Val  
20

<210> 221  
<211> 41  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Lysine codon  
aaa inserted to make HBc- K75 mutant

<400> 221  
gctacctggg tgggtgttaa aaatttggaa gatccagcgt c 41

<210> 222  
<211> 21  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: K inserted at  
amino acid position 76 of Hepatitis B core

<400> 222  
Thr Trp Val Gly Val Asn Lys Leu Glu Asp Pro Ala Ser Arg Asp Leu  
1 5 10 15  
Val Val Ser Tyr Val  
20

<210> 223  
<211> 27  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Lysine codon  
aaa inserted to make HBc-K76 mutant

<400> 223  
ttaataaatt ggaagatcca gcgtcta 27

<210> 224  
<211> 21  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: K inserted at  
position 77 of Hepatitis B virus core

<400> 224  
Thr Trp Val Gly Val Asn Leu Lys Glu Asp Pro Ala Ser Arg Asp Leu  
1 5 10 15  
Val Val Ser Tyr Val  
20

<210> 225  
<211> 27  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Lysine codon  
aaa inserted to make HBC-K77 mutant

<400> 225  
ttaatttgaa agaagatcca gcgtctaa 27

<210> 226  
<211> 21  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: K inserted at  
amino acid position 78 of Hepatitis B core

<400> 226  
Thr Trp Val Gly Val Asn Leu Glu Lys Asp Pro Ala Ser Arg Asp Leu  
1 5 10 15  
Val Val Ser Tyr Val  
20

<210> 227  
<211> 32  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Lysine codon  
aaa inserted to make HBC-K78 mutant

<400> 227  
ttaatttgaa aaaagatcca gcgtctagag ac 32

<210> 228

<211> 21  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: K inserted at  
 amino acid position 79 fo Hepatitis B core.

<400> 228  
 Thr Trp Val Gly Val Asn Leu Glu Asp Lys Pro Ala Ser Arg Asp Leu  
     1               5                         10                         15

Val Val Ser Tyr Val  
     20

<210> 229  
 <211> 36  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Lysine codon  
 aaa inserted to make HBc-K79 mutant

<400> 229  
 ttaatttgg a agataaaacca gcgtctagag acctag                           36

<210> 230  
 <211> 21  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: K inserted at  
 amino acid position 79 of Hepatitis B core

<400> 230  
 Thr Trp Val Gly Val Asn Leu Glu Asp Pro Lys Ala Ser Arg Asp Leu  
     1               5                         10                         15

Val Val Ser Tyr Val  
     20

<210> 231  
 <211> 39  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Lysine codon  
 aaa inserted to make HBc-K80 mutant

<400> 231  
 ttaatttgg a agatccaaaa gcgtctagag acctagtag                           39

<210> 232  
<211> 21  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: K inserted at  
amino acid position 81 of Hepatitis B core

<400> 232  
Thr Trp Val Gly Val Asn Leu Glu Asp Pro Ala Lys Ser Arg Asp Leu  
1 5 10 15

Val Val Ser Tyr Val  
20

<210> 233  
<211> 43  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Lysine codon  
aaa inserted to make HBc-K81 mutant

<400> 233  
ttaatttgga agatccagcg aaatctagag accttagtagt cag 43

<210> 234  
<211> 21  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: K inserted at  
amino acid position 82 of Hepatitis B core

<400> 234  
Thr Trp Val Gly Val Asn Leu Glu Asp Pro Ala Ser Lys Arg Asp Leu  
1 5 10 15

Val Val Ser Tyr Val  
20

<210> 235  
<211> 45  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Lysine codon  
aaa inserted to make HBc-K82 mutant

<400> 235  
ttaatttgg a agatccagcg tctaaaagag accttagtagt cagtt 45

<210> 236  
<211> 21  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: K inserted at amino acid position 83 to Hepatitis B core

<400> 236  
Thr Trp Val Gly Val Asn Leu Glu Asp Pro Ala Ser Arg Lys Asp Leu  
1 5 10 15

Val Val Ser Tyr Val  
20

<210> 237  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Lysine codon aaa inserted to make HBc-K83 mutant

<400> 237  
ttaatttgg a agatccagcg tctagaaaag accttagtagt cagttatgtc 50

<210> 238  
<211> 21  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: K inserted at amino acid position 83 of Hepatitis B core

<400> 238  
Thr Trp Val Gly Val Asn Leu Glu Asp Pro Ala Ser Arg Asp Lys Leu  
1 5 10 15

Val Val Ser Tyr Val  
20

<210> 239  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Lysine codon  
aaa inserted to make HBc-K84 mutant

<400> 239  
ttaatttgg a agatccagcg tcttagagaca aactagtagt cagtttatgtc

50

<210> 240  
<211> 21  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: K inserted at  
amino acid position 85 of Hepatitis B core

<400> 240  
Thr Trp Val Gly Val Asn Leu Glu Asp Pro Ala Ser Arg Asp Leu Lys  
1 5 10 15  
Val Val Ser Tyr Val  
20

<210> 241  
<211> 31  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Lysine codon  
aaa inserted to make HBc-K85 mutant

<400> 241  
ctcgagagac ctaaaaagtag tcagttatgt c

31

<210> 242  
<211> 36  
<212> PRT  
<213> Hepatitis B virus

<400> 242  
Gly Ile Gln Trp Met Glu Trp Asp Arg Glu Ile Asn Asn Tyr Thr Ser  
1 5 10 15  
Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys Asn  
20 25 30

Glu Gln Glu Leu  
35

<210> 243  
<211> 102  
<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: human  
cytochrome P450

<400> 243

aatttggatg tgggaagatc gtgagatcaa caattatacc agcctgatac attcttaat 60  
tgaagagtcc cagaaccaac aggagaaaaa tgaacaagag ct 102

<210> 244

<211> 94

<212> DNA

<213> Hepatitis B virus

<400> 244

cttgttcatt tttctcctgt tggttctggg actcttcaat taaagaatgt atcaggctgg 60  
tataattgtt gatctcacga tcttcccaca tcca 94

<210> 245

<211> 6

<212> PRT

<213> Hepatitis B virus

<400> 245

Met Asp Ile Asp Pro Tyr  
1 5

<210> 246

<211> 217

<212> PRT

<213> Spermophilus variegatus

<400> 246

Met Tyr Leu Phe His Leu Cys Leu Val Phe Ala Cys Val Pro Cys Pro  
1 5 10 15

Thr Val Gln Ala Ser Lys Leu Cys Leu Gly Trp Leu Trp Asp Met Asp  
20 25 30

Ile Asp Pro Tyr Lys Glu Phe Gly Ser Ser Tyr Gln Leu Leu Asn Phe  
35 40 45

Leu Pro Leu Asp Phe Phe Pro Asp Leu Asn Ala Leu Val Asp Thr Ala  
50 55 60

Ala Ala Leu Tyr Glu Glu Glu Leu Thr Gly Arg Glu His Cys Ser Pro  
65 70 75 80

His His Thr Ala Ile Arg Gln Ala Leu Val Cys Trp Glu Glu Leu Thr  
85 90 95

Arg Leu Ile Thr Trp Met Ser Glu Asn Thr Thr Glu Glu Val Arg Arg  
100 105 110

Ile Ile Val Asp His Val Asn Asn Thr Trp Gly Leu Lys Val Arg Gln  
115 120 125

Thr Leu Trp Phe His Leu Ser Cys Leu Thr Phe Gly Gln His Thr Val  
130 135 140

Gln Glu Phe Leu Val Ser Phe Gly Val Trp Ile Arg Thr Pro Ala Pro  
145 150 155 160

Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro Glu His Thr  
165 170 175

Val Ile Arg Arg Gly Gly Ser Arg Ala Ala Arg Ser Pro Arg Arg  
180 185 190

Arg Thr Pro Ser Pro Arg Arg Arg Ser Gln Ser Pro Arg Arg Arg  
195 200 205

Arg Ser Gln Ser Pro Ala Ser Asn Cys  
210 215

<210> 247

<211> 183

<212> PRT

<213> Hepatitis B virus

<400> 247

Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu  
1 5 10 15

Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp  
20 25 30

Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys  
35 40 45

Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu  
50 55 60

Leu Met Thr Leu Ala Thr Trp Val Gly Val Asn Leu Glu Asp Pro Ala  
65 70 75 80

Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn Met Gly Leu Lys  
85 90 95

Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg  
100 105 110

Glu Thr Val Ile Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr  
115 120 125

Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro  
130 135 140

Glu Thr Thr Val Val Arg Arg Gly Arg Ser Pro Arg Arg Arg Thr

145                    150                    155                    160  
Pro Ser Pro Arg Arg Arg Arg Ser Gln Ser Pro Arg Arg Arg Arg Ser  
165                    170                    175  
Gln Ser Arg Glu Ser Gln Cys  
180

<210> 248  
<211> 185  
<212> PRT  
<213> Hepatitis B virus

<400> 248  
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu  
1                    5                    10                    15

Ser Phe Leu Pro Ser Asp Phe Pro Ser Val Arg Asp Leu Leu Asp  
20                    25                    30

Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys  
35                    40                    45

Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu  
50                    55                    60

Leu Met Thr Leu Ala Thr Trp Val Gly Asn Asn Leu Gln Asp Pro Ala  
65                    70                    75                    80

Ser Arg Asp Leu Val Val Asn Tyr Val Asn Thr Asn Met Gly Leu Lys  
85                    90                    95

Ile Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg  
100                    105                    110

Glu Thr Val Leu Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr  
115                    120                    125

Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro  
130                    135                    140

Glu Thr Thr Val Val Arg Arg Asp Arg Gly Arg Ser Pro Arg Arg  
145                    150                    155                    160

Arg Thr Pro Ser Pro Arg Arg Arg Ser Gln Ser Pro Arg Arg Arg  
165                    170                    175

Arg Ser Gln Ser Arg Glu Ser Gln Cys  
180                    185

<210> 249  
<211> 185  
<212> PRT  
<213> Hepatitis B virus

<400> 249  
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu  
1 5 10 15

Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp  
20 25 30

Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys  
35 40 45

Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu  
50 55 60

Leu Met Thr Leu Ala Thr Trp Val Gly Asn Asn Leu Glu Asp Pro Ala  
65 70 75 80

Ser Arg Asp Leu Val Val Asn Tyr Val Asn Thr Asn Val Gly Leu Lys  
85 90 95

Ile Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg  
100 105 110

Glu Thr Val Leu Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr  
115 120 125

Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro  
130 135 140

Glu Thr Thr Val Val Arg Arg Arg Asp Arg Gly Arg Ser Pro Arg Arg  
145 150 155 160

Arg Thr Pro Ser Pro Arg Arg Arg Pro Ser Gln Ser Pro Arg Arg Arg  
165 170 175

Arg Ser Gln Ser Arg Glu Ser Gln Cys  
180 185

<210> 250  
<211> 183  
<212> PRT  
<213> Hepatitis B virus

<400> 250  
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu  
1 5 10 15

Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp  
20 25 30

Thr Ala Ala Ala Leu Tyr Arg Asp Ala Leu Glu Ser Pro Glu His Cys  
35 40 45

Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Asp  
50 55 60

Leu Met Thr Leu Ala Thr Trp Val Gly Thr Asn Leu Glu Asp Pro Ala

65

70

75

80

Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn Val Gly Leu Lys  
85 90 95

Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg  
100 105 110

Glu Thr Val Leu Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr  
115 120 125

Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro  
130 135 140

Glu Thr Thr Val Val Arg Arg Arg Gly Arg Ser Pro Arg Arg Arg Thr  
145 150 155 160

Pro Ser Pro Arg Arg Arg Arg Ser Gln Ser Pro Arg Arg Arg Arg Ser  
165 170 175

Gln Ser Arg Glu Ser Gln Cys  
180

<210> 251

<211> 183

<212> PRT

<213> Marmota monax

<400> 251

Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ser Ser Tyr Gln Leu Leu  
1 5 10 15

Asn Phe Leu Pro Leu Asp Phe Phe Pro Asp Leu Asn Ala Leu Val Asp  
20 25 30

Thr Ala Thr Ala Leu Tyr Glu Glu Leu Thr Gly Arg Glu His Cys  
35 40 45

Ser Pro His His Thr Ala Ile Arg Gln Ala Leu Val Cys Trp Asp Glu  
50 55 60

Leu Thr Lys Leu Ile Ala Trp Met Ser Ser Asn Ile Thr Ser Glu Gln  
65 70 75 80

Val Arg Thr Ile Ile Val Asn His Val Asn Asp Thr Trp Gly Leu Lys  
85 90 95

Val Arg Gln Ser Leu Trp Phe His Leu Ser Cys Leu Thr Phe Gly Gln  
100 105 110

His Thr Val Gln Glu Phe Leu Val Ser Phe Gly Val Trp Ile Arg Thr  
115 120 125

Pro Ala Pro Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro  
130 135 140

Glu His Thr Val Ile Arg Arg Arg Gly Gly Ala Arg Ala Ser Arg Ser  
145 150 155 160

Pro Arg Arg Arg Thr Pro Ser Pro Arg Arg Arg Arg Ser Gln Ser Pro  
165 170 175

Arg Arg Arg Arg Ser Gln Cys  
180

<210> 252

<211> 26

<212> PRT

<213> Bos taurus

<400> 252

Ser Thr Pro Pro Leu Pro Trp Pro Trp Ser Pro Ala Ala Leu Arg Leu  
1 5 10 15

Leu Gln Arg Pro Pro Glu Glu Pro Ala Ala  
20 25

<210> 253

<211> 17

<212> PRT

<213> Ebola virus

<400> 253

Ala Thr Gln Val Glu Gln His His Arg Arg Thr Asp Asn Asp Ser Thr  
1 5 10 15

Ala

<210> 254

<211> 17

<212> PRT

<213> Ebola virus

<400> 254

His Asn Thr Pro Val Tyr Lys Leu Asp Ile Ser Glu Ala Thr Gln Val  
1 5 10 15

Glu

<210> 255

<211> 17

<212> PRT

<213> Ebola virus

<400> 255

Gly Lys Leu Gly Leu Ile Thr Asn Thr Ile Ala Gly Val Ala Val Leu  
1 5 10 15

Ile

<210> 256  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:flexible linker arm

<400> 256  
Gly Gly Gly Ser Gly Gly Gly Thr  
1 5 10

<210> 257  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: flexible linker arm

<400> 257  
Gly Gly Gly Gly Ser Gly Gly Gly  
1 5

<210> 258  
<211> 513  
<212> DNA  
<213> Plasmodium falciparum

<220>  
<221> CDS  
<222> (1)..(507)

<400> 258  
atg gac atc gac cct tat aaa gaa ttt gga gct act gtg gag tta ctc 48  
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu  
1 5 10 15

tcg ttt ttg cct tct gac ttc ttt cct tca gta cga gat ctt cta gat 96  
Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp  
20 25 30

acc gcc tca gct ctg tat cgg gaa gcc tta gag tct cct gag cat tgt 144  
Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys  
35 40 45

tca cct cac cat act gca ctc agg caa gca att ctt tgc tgg ggg gaa 192  
Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu

50	55	60	
cta atg act cta gct acc tgg gtg ggt aat ttg gaa gat gga att Leu Met Thr Leu Ala Thr Trp Val Gly Val Asn Leu Glu Asp Gly Ile			240
65	70	75	80
aac gct aat ccg aac gct aat ccg aac gct aat ccg aac gct aat ccg Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro			288
85	90	95	
gag ctc cca gcg tct aga gac cta gta gtc agt tat gtc aac act aat Glu Leu Pro Ala Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn			336
100	105	110	
atg ggc cta aag ttc agg caa ctc ttg tgg ttt cac att tct tgt ctc Met Gly Leu Lys Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu			384
115	120	125	
act ttt gga aga gaa aca gtt ata gag tat ttg gtg tct ttc gga gtg Thr Phe Gly Arg Glu Thr Val Ile Glu Tyr Leu Val Ser Phe Gly Val			432
130	135	140	
tgg att cgc act cct cca gct tat aga cca cca aat gcc cct atc cta Trp Ile Arg Thr Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu			480
145	150	155	160
tca aca ctt ccg gag act act gtt gtt tagtaa Ser Thr Leu Pro Glu Thr Thr Val Val			513
165			

<210> 259  
<211> 169  
<212> PRT  
<213> Plasmodium falciparum

<400> 259			
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu			
1	5	10	15
Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp			
20	25	30	
Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys			
35	40	45	
Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu			
50	55	60	
Leu Met Thr Leu Ala Thr Trp Val Gly Val Asn Leu Glu Asp Gly Ile			
65	70	75	80
Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro			
85	90	95	
Glu Leu Pro Ala Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn			
100	105	110	

Met Gly Leu Lys Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu  
115 120 125

Thr Phe Gly Arg Glu Thr Val Ile Glu Tyr Leu Val Ser Phe Gly Val  
130 135 140

Trp Ile Arg Thr Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu  
145 150 155 160

Ser Thr Leu Pro Glu Thr Thr Val Val  
165

<210> 260

<211> 513

<212> DNA

<213> Plasmodium falciparum

<220>

<221> CDS

<222> (1)...(507)

<400> 260

atg gac atc gac cct tat aaa gaa ttt gga gct act gtg gag tta ctc 48  
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu  
1 5 10 15

tcg ttt ttg cct tct gac ttc ttt cct tca gta cga gat ctt cta gat 96  
Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp  
20 25 30

acc gcc tca gct ctg tat cgg gaa gcc tta gag tct cct gag cat tgt 144  
Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys  
35 40 45

tca cct cac cat act gca ctc agg caa gca att ctt tgc tgg ggg gaa 192  
Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu  
50 55 60

cta atg act cta gct acc tgg gtg ggt aat ttg gaa gga att aac 240  
Leu Met Thr Leu Ala Thr Trp Val Gly Val Asn Leu Glu Gly Ile Asn  
65 70 75 80

gct aat ccg aac gct aat ccg aac gct aat ccg aac gct aat ccg gag 288  
Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Glu  
85 90 95

ctc gat cca gcg tct aga gac cta gta gtc agt tat gtc aac act aat 336  
Leu Asp Pro Ala Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn  
100 105 110

atg ggc cta aag ttc agg caa ctc ttg tgg ttt cac att tct tgt ctc 384  
Met Gly Leu Lys Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu  
115 120 125

act ttt gga aga gaa aca gtt ata gag tat ttg gtg tct ttc gga gtg 432  
Thr Phe Gly Arg Glu Thr Val Ile Glu Tyr Leu Val Ser Phe Gly Val  
130 135 140

tgg att cgc act cct cca gct tat aga cca cca aat gcc cct atc cta 480  
Trp Ile Arg Thr Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu  
145 150 155 160

tca aca ctt ccg gag act act gtt gtt tagtaa 513  
Ser Thr Leu Pro Glu Thr Thr Val Val  
165

<210> 261  
<211> 169  
<212> PRT  
<213> Plasmodium falciparum

<400> 261  
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu  
1 5 10 15

Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp  
20 25 30

Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys  
35 40 45

Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu  
50 55 60

Leu Met Thr Leu Ala Thr Trp Val Gly Val Asn Leu Glu Gly Ile Asn  
65 70 75 80

Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Glu  
85 90 95

Leu Asp Pro Ala Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn  
100 105 110

Met Gly Leu Lys Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu  
115 120 125

Thr Phe Gly Arg Glu Thr Val Ile Glu Tyr Leu Val Ser Phe Gly Val  
130 135 140

Trp Ile Arg Thr Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu  
145 150 155 160

Ser Thr Leu Pro Glu Thr Thr Val Val  
165

<210> 262  
<211> 519  
<212> DNA

<213> Plasmodium falciparum

<220>

<221> CDS

<222> (1)..(519)

<400> 262

atg gac atc gac cct tat aaa gaa ttt gga gct act gtg gag tta ctc 48  
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu  
1 5 10 15

tcg ttt ttg cct tct gac ttc ttt cct tca gta cga gat ctt cta gat 96  
Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp  
20 25 30

acc gcc tca gct ctg tat cgg gaa gcc tta gag tct cct gag cat tgt 144  
Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys  
35 40 45

tca cct cac cat act gca ctc agg caa gca att ctt tgc tgg ggg gaa 192  
Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu  
50 55 60

cta atg act cta gct acc tgg gtg ggt gtt aat ttg gaa gat cca gcg 240  
Leu Met Thr Leu Ala Thr Trp Val Gly Val Asn Leu Glu Asp Pro Ala  
65 70 75 80

tct aga gac cta gta gtc agt tat gtc aac act aat atg ggc cta aag 288  
Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn Met Gly Leu Lys  
85 90 95

ttc agg caa ctc ttg tgg ttt cac att tct tgt ctc act ttt gga aga 336  
Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg  
100 105 110

gaa aca gtt ata gag tat ttg gtg tct ttc gga gtg tgg att cgc act 384  
Glu Thr Val Ile Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr  
115 120 125

cct cca gct tat aga cca cca aat gcc cct atc cta tca aca ctt ccg 432  
Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro  
130 135 140

gag act act gtt gtt gga att gaa tat ctg aac aaa atc cag aac tct 480  
Glu Thr Thr Val Val Gly Ile Glu Tyr Leu Asn Lys Ile Gln Asn Ser  
145 150 155 160

ctg tcc acc gaa tgg tct ccg tgc tcc gtt acc tag taa 519  
Leu Ser Thr Glu Trp Ser Pro Cys Ser Val Thr  
165 170

<210> 263

<211> 171

<212> PRT

<213> Plasmodium falciparum

<400> 263

Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu  
1 5 10 15  
Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp  
20 25 30  
Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys  
35 40 45  
Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu  
50 55 60  
Leu Met Thr Leu Ala Thr Trp Val Gly Val Asn Leu Glu Asp Pro Ala  
65 70 75 80  
Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn Met Gly Leu Lys  
85 90 95  
Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg  
100 105 110  
Glu Thr Val Ile Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr  
115 120 125  
Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro  
130 135 140  
Glu Thr Thr Val Val Gly Ile Glu Tyr Leu Asn Lys Ile Gln Asn Ser  
145 150 155 160  
Leu Ser Thr Glu Trp Ser Pro Cys Ser Val Thr  
165 170

<210> 264

<211> 516

<212> DNA

<213> Plasmodium falciparum

<220>

<221> CDS

<222> (1)..(516)

<400> 264

atg gac atc gac cct tat aaa gaa ttt gga gct act gtg gag tta ctc 48  
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu  
1 5 10 15

tgc ttt ttg cct tct gac ttc ttt cct tca gta cga gat ctt cta gat 96  
Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp  
20 25 30

acc gcc tca gct ctg tat cgg gaa gcc tta gag tct cct gag cat tgt 144  
Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys  
35 40 45

tca cct cac cat act gca ctc agg caa gca att ctt tgc tgg ggg gaa 192  
Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu  
50 55 60

cta atg act cta gct acc tgg gtg ggt aat ttg gaa gat gga att 240  
Leu Met Thr Leu Ala Thr Trp Val Gly Val Asn Leu Glu Asp Gly Ile  
65 70 75 80

aac gct aat ccg aac gct aat ccg aac gct aat ccg aac gct aat ccg 288

<210> 265  
<211> 170  
<212> PRT  
<213> Plasmodium falciparum

<400> 265  
 Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu  
       1                 5                 10                 15  
 Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp  
       20                 25                 30  
 Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys  
       35                 40                 45  
 Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu  
       50                 55                 60  
 Leu Met Thr Leu Ala Thr Trp Val Gly Val Asn Leu Glu Asp Gly Ile  
       65                 70                 75                 80  
 Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro  
       85                 90                 95  
 Glu Leu Pro Ala Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn  
       100                105                110  
 Met Gly Leu Lys Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu  
       115                120                125  
 Thr Phe Gly Arg Glu Thr Val Ile Glu Tyr Leu Val Ser Phe Gly Val  
       130                135                140  
 Trp Ile Arg Thr Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu  
       145                150                155                 160  
 Ser Thr Leu Pro Glu Thr Thr Val Val Cys  
       165                 170

<210> 266  
<211> 579

<212> DNA  
<213> Plasmodium falciparum

<220>  
<221> CDS  
<222> (1) .. (579)

<400> 266

atg gac atc gac cct tat aaa gaa ttt gga gct act gtg gag tta ctc	48
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu	
1 5 10 15	
tcg ttt ttg cct tct gac ttc ttt cct tca gta cga gat ctt cta gat	96
Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp	
20 25 30	
acc gcc tca gct ctg tat cgg gaa gcc tta gag tct cct gag cat tgt	144
Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys	
35 40 45	
tca cct cac cat act gca ctc agg caa gca att ctt tgc tgg ggg gaa	192
Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu	
50 55 60	
cta atg act cta gct acc tgg gtg ggt gtt aat ttg gaa gat gga att	240
Leu Met Thr Leu Ala Thr Trp Val Gly Val Asn Leu Glu Asp Gly Ile	
65 70 75 80	
aac gct aat ccg aac gct aat ccg aac gct aat ccg aac gct aat ccg	288
Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro	
85 90 95	
gag ctc cca gcg tct aga gac cta gta gtc agt tat gtc aac act aat	336
Glu Leu Pro Ala Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn	
100 105 110	
atg ggc cta aag ttc agg caa ctc ttg tgg ttt cac att tct tgt ctc	384
Met Gly Leu Lys Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu	
115 120 125	
act ttt gga aga gaa aca gtt ata gag tat ttg gtg tct ttc gga gtg	432
Thr Phe Gly Arg Glu Thr Val Ile Glu Tyr Leu Val Ser Phe Gly Val	
130 135 140	
tgg att cgc act cct cca gct tat aga cca cca aat gcc cct atc cta	480
Trp Ile Arg Thr Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu	
145 150 155 160	
tca aca ctt ccg gag act act gtt gtt gga att gaa tat ctg aac aaa	528
Ser Thr Leu Pro Glu Thr Thr Val Val Gly Ile Glu Tyr Leu Asn Lys	
165 170 175	
atc cag aac tct ctg tcc acc gaa tgg tct ccg tgc tcc gtt acc tag	576
Ile Gln Asn Ser Leu Ser Thr Glu Trp Ser Pro Cys Ser Val Thr	
180 185 190	
taa	579

<210> 267  
<211> 191  
<212> PRT  
<213> Plasmodium falciparum

<400> 267  
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu  
1 5 10 15  
Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp  
20 25 30  
Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys  
35 40 45  
Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu  
50 55 60  
Leu Met Thr Leu Ala Thr Trp Val Gly Val Asn Leu Glu Asp Gly Ile  
65 70 75 80  
Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Pro  
85 90 95  
Glu Leu Pro Ala Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn  
100 105 110  
Met Gly Leu Lys Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu  
115 120 125  
Thr Phe Gly Arg Glu Thr Val Ile Glu Tyr Leu Val Ser Phe Gly Val  
130 135 140  
Trp Ile Arg Thr Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu  
145 150 155 160  
Ser Thr Leu Pro Glu Thr Thr Val Val Gly Ile Glu Tyr Leu Asn Lys  
165 170 175  
Ile Gln Asn Ser Leu Ser Thr Glu Trp Ser Pro Cys Ser Val Thr  
180 185 190

<210> 268  
<211> 591  
<212> DNA  
<213> Plasmodium falciparum

<220>  
<221> CDS  
<222> (1)...(591)

<400> 268  
atg gac atc gac cct tat aaa gaa ttt gga gct act gtg gag tta ctc 48  
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu  
1 5 10 15  
  
tcg ttt ttg cct tct gac ttc ttt cct tca gta cga gat ctt cta gat 96  
Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp  
20 25 30  
  
acc gcc tca gct ctg tat cgg gaa gcc tta gag tct cct gag cat tgt 144  
Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys  
35 40 45

tca cct cac cat act gca ctc agg caa gca att ctt tgc tgg ggg gaa	192
Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu	
50 55 60	
cta atg act cta gct acc tgg gtg ggt gtt aat ttg gaa gat gga att	240
Leu Met Thr Leu Ala Thr Trp Val Gly Val Asn Leu Glu Asp Gly Ile	
65 70 75 80	
aac gcg aat ccg aac gtg gat ccg aat gcc aac cct aac gcc aac cca	288
Asn Ala Asn Pro Asn Val Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro	
85 90 95	
aat gcg aac cca gag ctc cca gcg tct aga gac cta gta gtc agt tat	336
Asn Ala Asn Pro Glu Leu Pro Ala Ser Arg Asp Leu Val Val Ser Tyr	
100 105 110	
gtc aac act aat atg ggc cta aag ttc agg caa ctc ttg tgg ttt cac	384
Val Asn Thr Asn Met Gly Leu Lys Phe Arg Gln Leu Leu Trp Phe His	
115 120 125	
att tct tgt ctc act ttt gga aga gaa aca gtt ata gag tat ttg gtg	432
Ile Ser Cys Leu Thr Phe Gly Arg Glu Thr Val Ile Glu Tyr Leu Val	
130 135 140	
tct ttc gga gtg tgg att cgc act cct cca gct tat aga cca cca aat	480
Ser Phe Gly Val Trp Ile Arg Thr Pro Pro Ala Tyr Arg Pro Pro Asn	
145 150 155 160	
gcc cct atc cta tca aca ctt ccg gag act act gtt gtt gga att gaa	528
Ala Pro Ile Leu Ser Thr Leu Pro Glu Thr Thr Val Val Gly Ile Glu	
165 170 175	
tat ctg aac aaa atc cag aac tct ctg tcc acc gaa tgg tct ccg tgc	576
Tyr Leu Asn Lys Ile Gln Asn Ser Leu Ser Thr Glu Trp Ser Pro Cys	
180 185 190	
tcc gtt acc tag taa	591
Ser Val Thr	
195	

<210> 269  
<211> 195  
<212> PRT  
<213> Plasmodium falciparum

<400> 269  
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu  
1 5 10 15  
Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp  
20 25 30  
Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys  
35 40 45  
Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu  
50 55 60  
Leu Met Thr Leu Ala Thr Trp Val Gly Val Asn Leu Glu Asp Gly Ile

65	70	75	80
Asn	Ala	Asn	Pro
Asn	Val	Asp	Pro
Asn	Ala	Asn	Ala
Asn	Pro	Glu	Asn
Asn	Leu	Leu	Pro
Asn	Ala	Ser	Arg
Asn	Pro	Asp	Asp
Asn	Leu	Val	Val
Asn	Val	Val	Ser
Asn	Ala	Tyr	
Asn	Asn	100	95
Asn	Asn	105	110
Asn	Met	115	125
Asn	Gly	120	
Asn	Leu	125	
Asn	Lys		
Asn	Phe		
Asn	Arg		
Asn	Gln		
Asn	Leu		
Asn	Leu		
Asn	Trp		
Asn	Phe		
Asn	His		
Ile	Ser	130	135
Cys	Leu	135	140
Leu	Thr		
Phe	Gly		
Arg	Val		
Trp	Ile		
Ile	Arg		
Arg	Thr		
Pro	Pro		
Pro	Ala		
Ala	Tyr		
Tyr	Arg		
Pro	Pro		
Pro	Asn		
Asn	Ile		
Ile	Gln		
Gln	Asn		
Asn	Ser		
Ser	Leu		
Leu	Ser		
Ser	Thr		
Thr	Glu		
Glu	Trp		
Trp	Ser		
Ser	Pro		
Pro	Cys		
Cys			
Ser	Val	180	185
Val	Thr		190
Thr			
Val			195

<210> 270  
<211> 561  
<212> DNA  
<213> Human immunodeficiency virus type 1

<220>  
<221> CDS  
<222> (1)..(561)

<400> 270																
atg	gac	atc	gac	cct	tat	aaa	gaa	ttt	gga	gct	act	gtg	gag	tta	ctc	
Met	Asp	Ile	Asp	Pro	Tyr	Lys	Glu	Phe	Gly	Ala	Thr	Val	Glu	Leu	Leu	
1				5					10						15	48

tcg	ttt	ttg	cct	tct	gac	ttc	ttt	cct	tca	gta	cga	gat	ctt	cta	gat	
Ser	Phe	Leu	Pro	Ser	Asp	Phe	Phe	Pro	Ser	Val	Arg	Asp	Leu	Leu	Asp	
20					25					30						96

acc	gcc	tca	gct	ctg	tat	cgg	gaa	gcc	tta	gag	tct	cct	gag	cat	tgt	
Thr	Ala	Ser	Ala	Leu	Tyr	Arg	Glu	Ala	Leu	Glu	Ser	Pro	Glu	His	Cys	
35					40					45						144

tca	cct	cac	cat	act	gca	ctc	agg	caa	gca	att	ctt	tgc	tgg	ggg	gaa	
Ser	Pro	His	His	Thr	Ala	Leu	Arg	Gln	Ala	Ile	Leu	Cys	Trp	Gly	Glu	
50					55					60						192

cta	atg	act	cta	gct	acc	tgg	gtg	ggt	gtt	aat	ttg	gaa	gat	gga	att	
Leu	Met	Thr	Leu	Ala	Thr	Trp	Val	Gly	Val	Asn	Leu	Glu	Asp	Gly	Ile	
65					70					75					80	240

caa	tgg	atg	gaa	tgg	gat	cgt	gag	atc	aac	aat	tat	acc	agc	ctg	ata	
Gln	Trp	Met	Glu	Trp	Asp	Arg	Glu	Ile	Asn	Asn	Tyr	Thr	Ser	Leu	Ile	
85					90						95					288

cat	tct	tta	att	gaa	gag	tcc	cag	aac	caa	cag	gag	aaa	aat	gaa	caa	
His	Ser	Leu	Ile	Glu	Glu	Ser	Gln	Asn	Gln	Gln	Glu	Lys	Asn	Glu	Gln	
100						105						110				336

gag ctc cca gcg tct aga gac cta gta gtc agt tat gtc aac act aat		384	
Glu Leu Pro Ala Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn			
115	120	125	
atg ggc cta aag ttc agg caa ctc ttg tgg ttt cac att tct tgt ctc		432	
Met Gly Leu Lys Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu			
130	135	140	
act ttt gga aga gaa aca gtt ata gag tat ttg gtg tct ttc gga gtg		480	
Thr Phe Gly Arg Glu Thr Val Ile Glu Tyr Leu Val Ser Phe Gly Val			
145	150	155	160
tgg att cgc act cct cca gct tat aga cca cca aat gcc cct atc cta		528	
Trp Ile Arg Thr Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu			
165	170	175	
tca aca ctt ccg gag act act gtt gtt tag taa		561	
Ser Thr Leu Pro Glu Thr Thr Val Val			
180	185		

<210> 271  
<211> 185  
<212> PRT  
<213> Human immunodeficiency virus type 1

<400> 271			
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu			
1	5	10	15
Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp			
20	25	30	
Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys			
35	40	45	
Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu			
50	55	60	
Leu Met Thr Leu Ala Thr Trp Val Gly Val Asn Leu Glu Asp Gly Ile			
65	70	75	80
Gln Trp Met Glu Trp Asp Arg Glu Ile Asn Asn Tyr Thr Ser Leu Ile			
85	90	95	
His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys Asn Glu Gln			
100	105	110	
Glu Leu Pro Ala Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn			
115	120	125	
Met Gly Leu Lys Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu			
130	135	140	
Thr Phe Gly Arg Glu Thr Val Ile Glu Tyr Leu Val Ser Phe Gly Val			
145	150	155	160
Trp Ile Arg Thr Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu			
165	170	175	
Ser Thr Leu Pro Glu Thr Thr Val Val			
180	185		

<210> 272  
<211> 564

<212> .DNA  
 <213> Human immunodeficiency virus type 1  
  
 <220>  
 <221> CDS  
 <222> (1)..(564)  
  
 <400> 272

atg gac atc gac cct tat aaa gaa ttt gga gct act gtg gag tta ctc	48
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu	
1 5 10 15	
tcg ttt ttg cct tct gac ttc ttt cct tca gta cga gat ctt cta gat	96
Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp	
20 25 30	
acc gcc tca gct ctg tat cgg gaa gcc tta gag tct cct gag cat tgt	144
Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys	
35 40 45	
tca cct cac cat act gca ctc agg caa gca att ctt tgc tgg ggg gaa	192
Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu	
50 55 60	
cta atg act cta gct acc tgg gtg ggt gtt aat ttg gaa gat gga att	240
Leu Met Thr Leu Ala Thr Trp Val Gly Val Asn Leu Glu Asp Gly Ile	
65 70 75 80	
caa tgg atg gaa tgg gat cgt gag atc aac aat tat acc agc ctg ata	288
Gln Trp Met Glu Trp Asp Arg Glu Ile Asn Asn Tyr Thr Ser Leu Ile	
85 90 95	
cat tct tta att gaa gag tcc cag aac caa cag gag aaa aat gaa caa	336
His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys Asn Glu Gln	
100 105 110	
gag ctc cca gcg tct aga gac cta gta gtc agt tat gtc aac act aat	384
Glu Leu Pro Ala Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn	
115 120 125	
atg ggc cta aag ttc agg caa ctc ttg tgg ttt cac att tct tgt ctc	432
Met Gly Leu Lys Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu	
130 135 140	
act ttt gga aga gaa aca gtt ata gag tat ttg gtg tct ttc gga gtg	480
Thr Phe Gly Arg Glu Thr Val Ile Glu Tyr Leu Val Ser Phe Gly Val	
145 150 155 160	
tgg att cgc act cct cca gct tat aga cca cca aat gcc cct atc cta	528
Trp Ile Arg Thr Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu	
165 170 175	
tca aca ctt ccg gag act act gtt gtc tag taa	564
Ser Thr Leu Pro Glu Thr Thr Val Val Cys	
180 185	

<210> 273  
<211> 186  
<212> PRT  
<213> Human immunodeficiency virus type 1

<400> 273  
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu  
1 5 10 15  
Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp  
20 25 30  
Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys  
35 40 45  
Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu  
50 55 60  
Leu Met Thr Leu Ala Thr Trp Val Gly Val Asn Leu Glu Asp Gly Ile  
65 70 75 80  
Gln Trp Met Glu Trp Asp Arg Glu Ile Asn Asn Tyr Thr Ser Leu Ile  
85 90 95  
His Ser Leu Ile Glu Glu Ser Gln Asn Gln Glu Lys Asn Glu Gln  
100 105 110  
Glu Leu Pro Ala Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn  
115 120 125  
Met Gly Leu Lys Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu  
130 135 140  
Thr Phe Gly Arg Glu Thr Val Ile Glu Tyr Leu Val Ser Phe Gly Val  
145 150 155 160  
Trp Ile Arg Thr Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu  
165 170 175  
Ser Thr Leu Pro Glu Thr Thr Val Val Cys  
180 185

<210> 274  
<211> 651  
<212> DNA  
<213> Spermophilus variegatus

<400> 274  
atgtatcttt ttcacctgtc ccttggttt gcctgtgtt catgtcctac tggtaagcc 60  
tccaagctgt gccttgatg gcttgggac atggacatag atccctataa agaatttggt 120  
tcttcttatac agttgtgaa ttttcttcct ttggactttt ttcctgatct caatgcattg 180  
gtggacactg ctgctgtct ttatgaagaa gaattaacag gttagggagca ttgttctcct 240  
catcatactg ctattagaca ggccttagtg tggtggaaag aattaactag attaattaca 300  
tggatgatgt aaaatacaac agaagaagt agaagaatta ttgttgcata tgtcaataat 360  
acttggggac ttaaaagaag acagacttta tggttcatt tatcatgtct tactttgga 420  
caacacacag ttcaagaatt ttgggttagt ttggagtagt ggattagaac tccagctcct 480  
tatagaccac ctaatgcacc catttatca actcttcgg aacatacagt cattaggaga 540  
agaggaggtt caagagctgc taggtcccc cgaagacgca cttccctctcc tcgcaggaga 600  
aggctcaat caccgcgtcg cagacgctct caatctccag cttccaactg c 651

<210> 275  
<211> 549  
<212> DNA  
<213> Hepatitis B virus

<400> 275  
atggacatcg acccttataa agaatttgg a gctactgtgg agttactctc gttttgcct 60  
tctgacttct ttcccttcagt acgagatctt ctagataccg cctcagctct gtatcggaa 120  
gccttagagt ctccctgagca ttgttccacctt caccatactg cactcaggca agcaattctt 180  
tgctgggggg aactaatgac tctagctacc tgggtgggtg ttaatttgg a agatccagcg 240  
tctagagacc tagtagtcag ttatgtcaac actaatatgg gcctaaagtt caggcaactc 300  
ttgtggtttc acatttctt tctcactttt ggaagagaaa cagttataga gtatttggtg 360  
tcttcggag tgtggattcg cactcctcca gcctatagac caccaaatgc ccctatccta 420  
tcaacacttc cggagactac tgggtttaga cgacgaggca ggtcccctag aagaagaact 480  
ccctcgccctc gcagacgaag gtctcaatcg ccgcgtcgca gaagatctca atctcggaa 540  
tctcaatgt 549

<210> 276  
<211> 555  
<212> DNA  
<213> Hepatitis B virus

<400> 276  
atggacattg acccttataa agaatttgg a gctactgtgg agttactctc gttttgcct 60  
tctgacttct ttccctccgt acgagatctc ctagacaccg cctcagctct gtatcgagaa 120  
gccttagagt ctccctgagca ttgttccacctt caccatactg cactcaggca agccattctc 180  
tgctgggggg aattgtatgac tctagctacc tgggtggta ataatttgc a agatccagca 240  
tccagagatc tagtagtcaa ttatgttaat actaatatgg gtttaaagat caggcaacta 300  
ttgtggtttc atatatctt ccttactttt ggaagagaga ctgtacttga atatttggtc 360  
tcttcggag tgtggattcg cactcctcca gcctatagac caccaaatgc ccctatctta 420  
tcaacacttc cggaaactac tgggtttaga cgacgggacc gaggcaggtc ccctagaaga 480  
agaactccctc cgcctcgca acgcagatct caatcgccgc gtcgcagaag atctcaatct 540  
cggaatctc aatgt 555

<210> 277  
<211> 555  
<212> DNA  
<213> Hepatitis B virus

<400> 277  
atggacattg acccttataa agaatttgg a gctactgtgg agttactctc gttttgcct 60  
tctgacttct ttccctccgt cagagatctc ctagacaccg cctcagctct gtatcgagaa 120  
gccttagagt ctccctgagca ttgttccacctt caccatactg cactcaggca agccattctc 180  
tgctgggggg aattgtatgac tctagctacc tgggtggta ataatttgg a agatccagca 240  
tctagggatc ttgttagaaa ttatgttaat actaatatgg gtttaaagat caggcaacta 300  
ttgtggtttc atatatctt ccttactttt ggaagagaga ctgtacttga atatttggtc 360  
tcttcggag tgtggattcg cactcctcca gcctatagac caccaaatgc ccctatctta 420  
tcaacacttc cggaaactac tgggtttaga cgacgggacc gaggcaggtc ccctagaaga 480  
agaactccctc cgcctcgca acgcagatct ccatcgccgc gtcgcagaag atctcaatct 540  
cggaatctc aatgt 555

<210> 278  
<211> 549  
<212> DNA  
<213> Hepatitis B virus

<400> 278  
atggacattg acccttataa agaatttgg a gctactgtgg agttactctc gttttgcct 60  
tctgacttct ttccctccgt acgagatctt ctagataccg cccgagctct gtatcggat 120

gccttagagt ctcctgagca ttgttacactt caccatactg cactcaggca agcaattctt 180  
tgctggggag acttaatgac tctagctacc tgggtggta ctaatttaga agatccagca 240  
tctagggacc tagtagtcag ttatgtcaac actaatgtgg gcctaaagt cagacaatta 300  
ttgtggttc acatttctt ttcactttt ggaagagaaa cggttctaga gtatttggtg 360  
tctttggag tgtggattcg cactcctcca gcttataagac caccaaatgc ccctatccta 420  
tcaacgctc cggagactac tttgtttaga cgacgaggca ggtcccctag aagaagaact 480  
ccctcgctc gcagacgaag atctcaatcg ccgcgtcgca gaagatctca atctcgggaa 540  
tctcaatgt 549

<210> 279  
<211> 549  
<212> DNA  
<213> Marmota monax

<400> 279  
atggctttgg ggcatggaca tagatcctta taaagaattt ggttcatctt atcagttgtt 60  
gaattttctt cctttggact tcttcctga tcttaatgct ttggggaca ctgctactgc 120  
cttgtatgaa gaagaactaa caggttaggaa acattgctct cccgaccata cagctattag 180  
acaagctta gtatgctggg atgaattaac taaattgata gcttggatga gctctaacat 240  
aacttctgaa caagtaagaa caatcattgt aaatcatgtc aatgataacct ggggacttaa 300  
ggtagagacaa agtttatggt ttcatttgc atgtctact ttccgacaac atacagttca 360  
agaattttta gtaagtttg gagtatggat caggactcca gctccatata gacccctaa 420  
tgcacccatt ctctcgactc ttccggaaca tacagtcatt aggagaagag gaggtgcaag 480  
agcttctagg tccccccagaa gacgcactcc ctctcctcgc aggagaagat ctcaatcacc 540  
gcgtcgag 549

<210> 280  
<211> 13  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: human  
cytochrome P450

<400> 280  
Gln Glu Lys Gln Leu Asp Glu Asn Ala Asn Val Gln Leu  
1 5 10

<210> 281  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: modified  
portion of Hepatitis B core

<400> 281  
Cys Val Val Thr Thr Glu Pro  
1 5

<210> 282

<211> 42  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:modified portion of Hepatitis B core

<400> 282  
gcaagcttac tattgaattc cgcaaacaac agtagtctcc gg 42

<210> 283  
<211> 26  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: modified portion of Hepatitis B core

<400> 283  
Thr Thr Val Val Gly Ile Glu Tyr Leu Asn Lys Ile Gln Asn Ser Leu  
1 5 10 15

Ser Thr Glu Trp Ser Pro Cys Ser Val Thr  
20 25

<210> 284  
<211> 27  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: modified portion of Hepatitis B core

<400> 284  
Thr Thr Val Val Cys Gly Ile Glu Tyr Leu Asn Lys Ile Gln Asn Ser  
1 5 10 15

Leu Ser Thr Glu Trp Ser Pro Ala Ser Val Thr  
20 25

<210> 285  
<211> 51  
<212> DNA  
<213> plasmid pKK223

<400> 285  
ttcacacagg aaacagaatt cccggggatc cgtcgacctg cagccaagct t 51

<210> 286  
<211> 38

<212> DNA  
<213> plasmid pKK223

<400> 286  
ttcacataag gagaaaaaaa cattgggatc cgaagctt

38

<210> 287  
<211> 20  
<212> PRT  
<213> Plasmodium yoelii

<400> 287  
Glu Phe Val Lys Gln Ile Ser Ser Gln Leu Thr Glu Glu Trp Ser Gln  
1 5 10 15  
Cys Ser Val Thr  
20

<210> 288  
<211> 14  
<212> PRT  
<213> Escherichia coli

<400> 288  
Cys Cys Glu Leu Cys Cys Tyr Pro Ala Cys Ala Gly Cys Asn  
1 5 10

<210> 289  
<211> 18  
<212> PRT  
<213> Escherichia coli

<400> 289  
Asn Thr Phe Tyr Cys Cys Glu Leu Cys Cys Tyr Pro Ala Cys Ala Gly  
1 5 10 15  
Cys Asn

<210> 290  
<211> 18  
<212> PRT  
<213> Escherichia coli

<400> 290  
Ser Ser Asn Tyr Cys Cys Glu Leu Cys Cys Tyr Pro Ala Cys Ala Gly  
1 5 10 15  
Cys Asn

<210> 291

<211> 10  
<212> PRT  
<213> Influenza virus

<400> 291  
Leu Ile Asp Ala Leu Leu Gly Asp Pro Cys  
1 5 10

<210> 292  
<211> 9  
<212> PRT  
<213> Influenza virus

<400> 292  
Thr Leu Ile Asp Ala Leu Leu Gly Cys  
1 5

<210> 293  
<211> 42  
<212> PRT  
<213> Homo sapiens

<400> 293  
Asp Ala Glu Phe Arg His Asp Ser Gly Tyr Glu Val His His Gln Lys  
1 5 10 15

Leu Val Phe Phe Ala Glu Asp Val Gly Ser Asn Lys Gly Ala Ile Ile  
20 25 30

Gly Leu Met Val Gly Gly Val Val Ile Ala  
35 40

<210> 294  
<211> 11  
<212> PRT  
<213> Homo sapiens

<400> 294  
Glu Asp Val Gly Ser Asn Lys Gly Ala Ile Ile  
1 5 10

<210> 295  
<211> 33  
<212> PRT  
<213> Homo sapiens

<400> 295  
Asp Ala Glu Phe Arg His Asp Ser Gly Tyr Glu Val His His Gln Lys  
1 5 10 15

Leu Val Phe Phe Ala Glu Asp Val Gly Ser Asn Lys Gly Ala Ile Ile  
20 25 30

Gly

<210> 296  
<211> 60  
<212> DNA  
<213> Homo sapiens

<400> 296  
aattgatgctc gaatttcgtc atgacagcggtg caccatcaga aactggagct 60

<210> 297  
<211> 52  
<212> DNA  
<213> Homo sapiens

<400> 297  
ccagtttctg atgggtgcacc tcatagccgc tgtcatgacaa aattccgca tc 52

<210> 298  
<211> 42  
<212> DNA  
<213> Homo sapiens

<400> 298  
aattgaagat gtcgggttcta acaagggggc aattatcgag ct 42

<210> 299  
<211> 34  
<212> DNA  
<213> Homo sapiens

<400> 299  
cgataattgc ccccttgtta gaaccgacat ct 34

<210> 300  
<211> 82  
<212> DNA  
<213> Homo sapiens

<400> 300  
gcgggaatttgcgtcatgac agcggctatg aggtgcacca tcagaaactg 60  
gttttctttgcgaagatgt cg 82

<210> 301  
<211> 83  
<212> DNA  
<213> Homo sapiens

<400> 301  
gcggagactcc gctatgacaa ccccacccac cattaagccg ataattgccc cttgttaga 60

accgacatct tcggcaaaga aaa	83		
<210> 302			
<211> 53			
<212> DNA			
<213> Homo sapiens			
<400> 302			
gcggagctcg ataattgccc cttgttaga accgacatct tcggcaaaga aaa	53		
<210> 303			
<211> 31			
<212> DNA			
<213> Homo sapiens			
<400> 303			
gcggaaattc tggatgcgga atttcgtcat g	31		
<210> 304			
<211> 17			
<212> DNA			
<213> Homo sapiens			
<400> 304			
gcggagctcc gctatga	17		
<210> 305			
<211> 31			
<212> DNA			
<213> Homo sapiens			
<400> 305			
gcggaaattc tggatgcgga atttcgtcat g	31		
<210> 306			
<211> 18			
<212> DNA			
<213> Homo sapiens			
<400> 306			
gcggagctcg ataattgc	18		
<210> 307			
<211> 24			
<212> PRT			
<213> Haemophilus influenzae			
<400> 307			
Met Ser Leu Leu Thr Glu Val Glu Thr Pro Ile Arg Asn Glu Trp Gly			
1	5	10	15

Cys Arg Cys Asn Asp Ser Ser Asp  
20

<210> 308  
<211> 23  
<212> PRT  
<213> Haemophilus influenzae

<400> 308  
Ser Leu Leu Thr Glu Val Glu Thr Pro Ile Arg Asn Glu Trp Gly Cys  
1 5 10 15

Arg Cys Asn Asp Ser Ser Asp  
20

<210> 309  
<211> 23  
<212> PRT  
<213> Haemophilus influenzae

<400> 309  
Ser Leu Leu Thr Glu Val Glu Thr Pro Ile Arg Asn Glu Trp Gly Ala  
1 5 10 15

Arg Ala Asn Asp Ser Ser Asp  
20

<210> 310  
<211> 35  
<212> PRT  
<213> Haemophilus influenzae

<400> 310  
Met Gly Ile Ser Leu Leu Thr Glu Val Glu Thr Pro Ile Arg Asn Glu  
1 5 10 15

Trp Gly Cys Arg Cys Asn Asp Ser Ser Asp Glu Leu Leu Gly Trp Leu  
20 25 30

Trp Gly Ile  
35

<210> 311  
<211> 35  
<212> PRT  
<213> Haemophilus influenzae

<400> 311  
Met Gly Ile Ser Leu Leu Thr Glu Val Glu Thr Pro Ile Arg Asn Glu  
1 5 10 15

Trp Gly Cys Arg Cys Asn Asp Ser Ser Asp Glu Leu Leu Gly Trp Leu  
20 25 30

Trp Gly Ile  
35

<210> 312  
<211> 23  
<212> PRT  
<213> Influenza A virus

<400> 312  
Ser Leu Leu Thr Glu Val Glu Thr Pro Ile Arg Asn Glu Trp Gly Ala  
1               5                   10                           15  
  
Arg Ala Asn Asp Ser Ser Asp  
20

<210> 313  
<211> 19  
<212> PRT  
<213> Influenza A virus

<400> 313  
Glu Gln Gln Ser Ala Val Asp Ala Asp Asp Ser His Phe Val Ser Ile  
1               5                   10                           15  
  
Glu Leu Glu